H. Andrew
Jany 26th
1867

THE

WONDERS

OF

NATURE AND ART;

BEING AN

ACCOUNT

OF

Whatever is most Curious and Remarkable throughout the WORLD;

Whether relating to its

ANIMALS, VEGETABLES, MINERALS, VOLCANOES, CATARACTS, HOT and COLD SPRINGS,

AND

Other Parts of NATURAL HISTORY;

OR, TO THE

BUILDINGS, MANUFACTURES, INVENTIONS, and DISCOVERIES of its Inhabitants.

The Whole collected from the Writings of the best HISTORIANS, TRAVELLERS, GEOGRAPHERS, and PHILOSOPHERS, among which are some *Original Manuscripts*; interspersed with pious OBSERVATIONS and REFLECTIONS; illustrated with NOTES, and adorned with COPPER-PLATES.

VOL. III.

The SECOND EDITION.

LONDON:
Printed for NEWBERY and CARNAN, Sons and Successors to the late Mr. JOHN NEWBERY, at the Bible and Sun, No. 65. the North Side of St. Paul's Church-yard.

M DCC LXVIII.

Acc 2014.275
Vol. 3

AG241
.W66
1768x
v.3

THE CONTENTS.

CHAP. VIII. Of GREENLAND, page 1
Vegetables, — — 3
Animals, — — *ibid.*
Inhabitants of Greenland, — 15

CHAP. IX. Of SWEDEN and LAPLAND, 25
Lakes, Springs and Cataracts, — *ibid.*
Foſſils, — — 33
Animals, — — 40
Inhabitants of Lapland, — 43
Buildings, — — 47

CHAP. X. Of POLAND, — 49
Foſſils, — — *ibid.*
Animals, — — 58
Buildings, — — 59
Inhabitants of Poland, — 62

CHAP. XI. Of MUSCOVY, or the RUSSIAN EMPIRE, — 66
Foſſils, — — 68
Vegetables, — — 73
Animals, — — 77
Buildings, — — 89

Of

Of the Ruſſians, —— —— p. 94
Of the Kamtſchadales, —— 102

CHAP. XII. Of TURKY in EUROPE, 109
Caverns, New Iſlands, &c. —— *ibid.*
Foſſils, —— —— 131
Vegetables, —— —— 139
Animals, —— —— 143
Antiquities, —— —— 156
Buildings, —— —— 173
Of the Turks, —— —— 189

PART II. Of ASIA.

CHAP. I. Of TURKY in ASIA, — 212
Foſſils, —— —— 213
Vegetables, —— —— 222
Animals, —— —— 242
Miſcellaneous Articles, —— 255
Antiquities, —— —— 260
Buildings, —— —— 290
Of the Arabs, —— —— 296
Trade and Manufactures, —— 300

CHAP. II. Of PERSIA, —— —— 303
Springs, —— —— *ibid.*
Foſſils. —— —— —— 304
Vegetables, —— —— 312

THE

THE

WONDERS

OF

NATURE AND ART.

CHAP VIII.

Of GREENLAND.

TO what part of the earth Greenland properly belongs, is yet unknown; yet as it extends to the eaſt, as far as Iceland, it may properly be placed here, though it is ſuppoſed to extend to the weſt, as far as Spitzberg, which is ſeated in thirty degrees eaſt longitude. The moſt ſoutherly part of this country lies in the fifty-ninth degree fifty minutes north latitude, from whence the coaſt ſtretches to the north-weſt, beyond the ſeventy-eighth degree of north latitude, while the eaſtern coaſt, according to the Daniſh writers, reaches to the eighty ſecond. The weſt coaſt was firſt diſcovered in 1585, by Mr. John Davis, an Engliſhman, from whom the ſtreights that run between the continent of North America, and Greenland, are called by his name.

THE eaſt ſide of Greenland, which is oppoſite to Iceland, is rendered inacceſſible by moun-

tains of ice, with which the ſea is covered, and which riſe to an aſtoniſhing height; and the weſt ſide towards Davis's Streights, conſiſts of little more than confuſed heaps of rocks, the ſummits of which are covered with everlaſting ice and ſnow. However, the ſouthern part is much better known, and as far as the Daniſh colonies have penetrated, the climate is not inſupportable. During the ſummer ſeaſon, which laſts from the end of May to the middle of September, the ſun ſhines bright and very warm; over the main land no cloud can be ſeen, the weather being pleaſant and always clear, though the iſlands are covered with a damp fog, which throughout the whole year, except in the month of Auguſt, hover over the iſlands. The rains that fall here are neither frequent nor heavy; and in this climate it ſeldom thunders. However, theſe favourable circumſtances, with reſpect to the weather, are true only of the ſouthern parts of the country, ſubject to the Danes; for to the northward of the ſixty-eighth degree of latitude, the cold in winter is ſo exceſſive, that the ſtrongeſt French brandy will freeze near the fire-ſide. As the weather is in this climate very calm, the ice in the bays between the iſlands, is not diſturbed till the end of Auguſt; and even in the creeks it does not begin to thaw till the cloſe of May. From June to Auguſt, the ſun is continually above the horizon, and conſequently during that term, they have no night; but in winter the ſun is inviſible to the Greenlanders, and their day is nothing more than the morning and evening twilight, which do not laſt above two hours.

VEGE-

VEGETABLES.

IN the ſouthern parts is fine graſs, from which the country obtained its name; with yellow flowers, the roots of which have the ſmell of roſes: angelica, ſcurvy-graſs, wild roſemary, and ſome good excellent herbs. In ſome places, cabbages and turnips thrive very well; and the latter are remarkably ſweet; but there is not a tree to be ſeen in the country, except a little copice of birch trees, whoſe trunks are no thicker than a man's leg. Some ſhrubs are diſperſed here and there; as ſmall juniper, gooſeberry, and bilberry-buſhes, &c.

IT is not yet known what minerals are contained in the Greenland mountains. There are, however, rocks of aſbeſtos, from which conſiderable quantities have been hewn. Some mountains alſo conſiſt of an imperfect kind of variegated marble, of which the inhabitants make kettles, and ſome other utenſils.

ANIMALS.

THE only domeſtic animals found here are dogs that never bark, but ſnarl and howl: they are timorous and unfit for the chaſe; yet if not tamed when young, become wild and very miſchievous. The Greenlanders kill and eat theſe dogs; and often uſe them to draw their ſledges, yoking four, ſix, and ſometimes eight or ten to a ſledge, loaden with five or ſix of the largeſt ſeals, with the maſter ſitting upon them, who drives as faſt with them, as we can do with good horſes; for they often travel ſixty miles in a winter's day upon the ice.

THE White Bears of Greenland are differently ſhaped from thoſe of other countries, being leaner and ſwifter, with a longer neck, and a head more like a hound's than that of a common bear; neither can they properly be ſaid to growl, but rather bark like a dog that is hoarſe. Their ſkin is a good defence againſt the ſeverity of the cold, their hair being long and ſoft as wool, and their fleſh is indifferent food. Some of theſe creatures are ſix feet high, and fourteen in length; and they are ſaid to be ſo tender of their young, that they will rather ſuffer themſelves to be killed, than deſert them when in danger. They are often found floating on the ice at a vaſt diſtance from the ſhore, and ſwim from one mountain of ice to another, feeding on dead whales or other fiſhes they happen to meet with. Thoſe who have wintered in Greenland obſerve, that theſe bears are not to be ſeen during that ſeaſon.

HERE are rein-deer, very different from thoſe of Lapland. They are grey and ſhaggy, with horns like a hart, having three or four branches on each ſide, about a foot long, and two inches broad; and they have long ears and ſhort tails. They are very lean in the ſpring; but in ſummer they grow ſo fat by feeding on a ſort of yellow moſs, that their fleſh on the ribs is ſometimes four inches deep. Their fleſh is very good roaſted, and ſo are the foxes of Greenland, of which there are great numbers of different colours.

NEITHER ſnakes, nor any other venomous creatures, can live in this climate, nor are they plagued with rats, mice, or beetles; they have neither ants nor bees, yet moſchettos, or gnats, ſwarm in this country, and are extremely troubleſome.

GREEN-

A Whale

GREENLAND abounds with eagles, falcons, large ſpeckled owls, ravens, and in ſhort all the kinds of land and ſea-fowl known in Norway, are ſeen here in amazing numbers. The freſh water in Greenland has been highly extolled for its ſalubrity and palatableneſs. The rivers afford plenty of ſalmon, trout, and cray-fiſh; and the ſea yields an inexhauſtible variety of all kinds of fiſh, except oyſters.

THE Whales are larger than in any other part of the world, ſome of them being two hundred feet in length, but the more uſual ſize is from fifty to eighty or a hundred. The true whale differs from other fiſh that bear that name in his having no teeth, inſtead of which he has a kind of horny ſubſtance growing on each ſide of his upper jaw, conſiſting of a great number of different blades, ſome of them a foot broad at the bottom, and twelve or fifteen feet long, ending in a ſort of fringe, not unlike hog's briſtles. Theſe ſplit and faſhioned are what we call Whale-bone, and the genital member of the animal ſerves for the ſame purpoſe, but not the fins, as is commonly imagined. The whale has a very large flattiſh head, with two ſmall eyes, not bigger than thoſe of an ox; and for his bulk he has a narrow throat, being ſeldom more than a foot wide, tho' he can open his jaws ſeveral fathoms. On the top of his head he has two holes, through which he draws in air, and diſcharges water taken in at his mouth, which he ſpouts up to a ſurprizing height. His bones are hard like thoſe of quadrupeds; but, inſtead of having a cavity in the middle, they are porous and full of marrow. The belly of the whale is white, but the reſt of the body is black or reddiſh; and the fleſh is coarſe, hard, and mixed with ſinews. The outermoſt ſkin is

thin, which covers another almoſt an inch thick, but ſo tender, that it is of little or no defence to the animal againſt the aſſaults of its enemies. Between this ſkin and the fleſh lies the fat or blubber, from whence train oil is procured by boiling. The whale has very ſtrong ſinews about the tail, with which he turns and winds himſelf as he pleaſes, and ſwims with wonderful ſwiftneſs *, making a track in the ſea like a large ſhip under ſail. Theſe animals are mightily tormented with a kind of lice, which ſometimes eat large holes in their bodies; and it is ſuppoſed they feel great pain before a ſtorm, being obſerved at ſuch a time to twiſt and tumble about in a violent manner. As to the food of whales, it is probably ſmall fiſhes of ſeveral ſorts; but upon opening their bodies there is ſeldom found any thing but a few weeds, and a quantity of black inſects like ſpiders, which are very numerous in the northern ſeas. —Whales copulate like four-footed beaſts, bring forth their young alive, and ſuckle them with their milk.

THE profit ariſing from the bone and oil of theſe huge creatures induces the Dutch, Engliſh, and ſome merchants of other nations, to ſend annually a great many ſhips to the coaſt of Greenland, where they take them in the following

* In fiſhes the tail is the grand Inſtrument of ſwimming, not the fins, as is generally imagined, theſe only ſerving to keep their bodies well poiſed and balanced, and prevent vacillation. For this reaſon fiſhes are more ſtrong and muſculous in the tail than any other part; and it is obſervable that the motive parts of all animals are the ſtrongeſt, as the thighs of men for walking, the pectoral muſcles of birds for flying, &c.—The manner wherein fiſhes row themſelves forwards by the tail is well explained by Borelli, in his treatiſe de Motu Animalium, Part I. Cap. 23.

manner.

B. Cole Sculp.

A VIEW of the WHALE-FISHERY.

manner. When the ſeamen ſee or hear a whale ſpout, every one haſtens to his boat, of which there are five or ſix belonging to each ſhip, and ſix or ſeven men to each boat; and having rowed till they come pretty near the whale, the harpooneer ſtrikes him with his harpoon, which is a kind of javelin five or ſix feet long, pointed with ſteel and bearded like an arrow, to the other end whereof a line is faſtened. This requires both ſtrength and dexterity, in order to make the wound deep enough, and in the moſt proper place. As ſoon as the whale finds himſelf wounded, he plunges ſwiftly towards the bottom of the deep, and would inevitably ſink the boat if they did not give him line enough, which they take care to do by faſtening one to another, ſometimes to the length of eight or nine hundred fathoms. The man at the helm obſerves which way the rope goes, and ſteers the boat accordingly, that it may run out directly forwards, otherwiſe the boat would be overſet; and the Harpooneer keeps wetting the place where the line runs, leſt the boat ſoon ſhould take fire by the quickneſs of the motion. The other boats row before, and obſerve the line, now and then drawing it in gently when they find it ſlacken, to prevent the whale's entangling it amongſt the rocks. When the fiſh is pretty far ſpent and weakened, he riſes up again for air, upon which the harpooneer gives him a ſecond wound, and perhaps they dart ſeveral little ſpears into his body; till at length being quite tired, and fainting with the loſs of blood, the men have an opportunity of approaching him, and thruſting a long ſteeled lance under his fins into his inteſtines, which ſoon puts a period to his life. His vitals being touched, he ſpouts out ſtreams of blood inſtead of water, and rages moſt

furiouſly, beating the ſea with his tail till it is all on a foam, and the noiſe of it may be heard at a great diſtance; till having quite loſt his ſtrength, he turns on one ſide and expires.

ALL the boats are now employed in towing the floating carcaſe to the ſhip, againſt the ſide of which it is faſtened by ropes, one round the neck, and another round the tail. This done, three or four men go down upon the whale with a ſort of irons on their feet to prevent their ſlipping, and with large knives cut off the fat in pieces ſeveral feet long, which are drawn up into the ſhip by lines and pullies. Then they cut off the whalebone from the upper jaw of the fiſh with a hatchet made for that purpoſe, and having thus ſtripped the carcaſe of all its fat and fins, the reſt is turned adrift, and is welcome food to the birds and white bears. As the large pieces of fat are cut off, the reſt of the crew are employed in cutting them ſmaller, and picking out all the lean; after which they are put up in tubs, and ſtowed in the hold of the veſſel. When the fiſhing ſeaſon is over, nothing remains but to ſail homewards, where the blubber is boiled and melted into oil.—In general this fiſhery is very profitable, but very uncertain, a ſhip ſometimes taking ſeven or eight whales in one voyage, and at other times returning home without taking any thing at all.

BESIDES the whale, there are many other remarkable fiſhes and amphibious animals found near Greenland and in other parts of the northern ocean, which require a brief deſcription. Some of theſe indeed are looked upon to be of the whale-kind, particularly the Fin-Fiſh, which equals the whale in length, but not in thickneſs, and has a fin on his back, which the whale has

has not; from whence his name. He throws water higher than a whale of his ſize; has brown lips, which are twiſted like a rope; and his body much reſembles a tench in colour. He is extremely nimble, as well as ſtrong; and is killed in the ſame manner as the whale. When theſe fiſh come upon the coaſt, the whales diſappear.

THE Morſe, or Sea-Horſe, is an amphibious creature as large as an ox, with four feet, a thick round head, and a ſhort neck, in which lies his greateſt ſtrength. His eyes are red, his ears ſmall, and his noſtrils large, from whence he ſpouts water. His ſkin is very thick and covered with hair, and from his upper jaw proceed two long teeth, which are as white as ſnow, and more eſteemed than ivory, as they keep their colour better. This creature is very bold, making towards the boat as ſoon as he is attacked, and endeavouring to overſet it, ſometimes tearing large pieces from it with his teeth; but the ſeamen generally give him a warm reception, and diſpatch him with lances. When whales happen to be ſcarce, the oil and teeth of theſe animals help to ſupply the deficiency *.

THE Monoceros, or Sea-Unicorn, has been mentioned in the preceding chapter, as daring

* There is a little iſland, lying directly ſouth of Greenland, between it and the continent of Europe, remarkable for the great number of morſes that frequent the coaſt. It is called Cherry-Iſland; and it appears from Harris's Collection, that the Engliſh have formerly made ſeveral profitable voyages thither, where in one ſeaſon they got three hogſheads of morſes teeth, and made twenty-two tons of oil out of the flein of thoſe animals. In the year 1610 the Ruſſia company took poſſeſſion of the iſland, and that year they killed a thouſand morſes, and made about fifty tons of oil: but we do not find that any ſhips have been ſent thither for more than a hundred years paſt.

to attack the largeſt whale with his horn; but he is not the only enemy the whale has to deal with. The Sword-Fiſh, ſo called from his ſharp pointed upper jaw reſembling a ſword, purſues the whale and fin-fiſh with great eagerneſs. They are of various ſizes, from three to twenty feet in length, are ſhaped almoſt like a man's arm, and their eyes ſtand far out of their head. A few of them will diſpatch a large whale, and when they have killed him they feed chiefly on his tongue; but ſometimes they are deprived of their prey by the fiſhermen who are ſpectators of the combat.

ANOTHER enemy of the whale, and the moſt voracious of all, is the Hay, of which there are ſeveral ſorts, the largeſt of them about eighteen feet long, and generally of a greyiſh colour. This fiſh does not kill the whale outright, but bites large pieces of fat from his ſides, making holes as if they had been dug with a ſhovel; inſomuch, that fiſhermen have ſometimes taken whales which have had great part of their blubber torn away in this manner. The liver of the hay is exceeding large, and abounds in oil; and his fleſh, when dried ſome days in the air, and afterwards boiled or roaſted, is accounted tolerable food; but the leſs the fiſh, the better.

WE ſhall conclude this account with an extract of the hardſhips ſuſtained by eight Engliſhmen, who wintered in Greenland in the year 1630, which we hope will not be thought entirely foreign to our ſubject, nor prove unentertaining to the reader.

THREE ſhips were fitted out that year for Greenland; and one of them, a little before the time of their returning home, being ſtraitened for proviſions, the captain ſent eight men aſhore in a boat to kill veniſon, with orders to follow the

the ſhip to Green Harbour, which lies a little to the ſouthward of the place where they went aſhore. Theſe men, having killed fourteen or fifteen deer, propoſed to have gone on board the ſhip the day following; but a great quantity of ice driving towards the ſhore, the ſhip was obliged to ſtand ſo far out to ſea, that, when they came to Green Harbour, ſhe was out of ſight. Now the ſhips being to leave Greenland within three days, they thought it moſt adviſeable to make the beſt of their way to Bell-Sound, the place of rendezvous, diſtant from Green-Harbour about ſixteen leagues to the ſouthward. As they were under terrible apprehenſions leſt the ſhipping ſhould be gone from thence before they arrived there, in order to lighten the boat and make the greater expedition, they flung the veniſon into the ſea; but none of them knowing the coaſt very well, they over-ſhot the port above ten leagues; when, being ſenſible of their error, they returned to the northward. However, one of the company being poſitive that Bell-Sound lay farther to the ſouth, they directed their courſe ſouthward again; till being a ſecond time convinced of their miſtake, they turned again to the north, and at length arrived at the deſired harbour; but they had ſpent ſo much time in rowing backwards and forwards, that the ſhips had actually ſailed for England. As ſoon as they perceived this, they ſtood looking on one another, as men amazed at the diſtreſs to which they were on a ſudden reduced, being neither provided with cloaths, food, firing, nor houſe to ſhelter themſelves from the piercing cold they were to expect in ſo rigorous a climate. But their conſternation being a little abated, they began to think of the propereſt means to keep

themſelves alive during the approaching winter, in a country within twelve degrees of the pole, being the firſt that ever ſtaid there during that diſmal ſeaſon: and perhaps hiſtory does not afford an inſtance of a company of men in ſo diſtreſſed a condition, that ſhewed more courage and patience, or made a wiſer proviſion for their preſervation.

THE firſt thing they agreed on was to go to Green-Harbour, where they arrived in twelve hours; and having killed near twenty deer and four bears, they brought them to Bell-Sound. Here happened to be a large booth erected, for the coopers to work in at the fiſhing ſeaſon, eighty feet long and fifty broad, covered with tiles, and the ſides well boarded. Within this they built another, whoſe length was twenty feet, the breadth ſixteen, and the height ten, making it as cloſe and warm as poſſible. They alſo provided themſelves with wood, which they ſtowed between the beams and roof of the greater booth; but taking a ſlight ſurvey of their proviſions, they found there was not half enough to ſerve them all the winter, and therefore agreed to allow themſelves but one meal a day, putting their confidence in heaven, and praying for ſtrength and patience to go through their afflictions.

BY the beginning of October the nights were grown long, the weather very cold, and the ſea frozen over; and having now no buſineſs, as hitherto, to divert their melancholy thoughts, they began more than ever to reflect on their miſerable condition, but received great comfort from their frequent and fervent devotions. And now, upon a more narrow ſurvey of their proviſions, they concluded to have only three meals a week.

a week of veniſon and bear, and four meals of fritters, which is a very loathſome food, being nothing but the ſcraps of whale's fat, flung away after they have been boiled for oil; and left their firing ſhould not hold out, they thought it proper to dreſs more meat at a time, and put it up in hogſheads.

On the 14th of October the ſun left them, but they had the moon continually, and alſo a glimmering kind of day-light for ſome hours, which grew leſs and leſs till the firſt of December, from which time to the 20th they could not perceive any day-light at all. As for light within doors, finding ſome ſheet-lead upon one of the coolers, they made three lamps, which they ſupplied with oil that was fortunately left in the cooper's tent; and for wicks they made uſe of rope-yarn.

With the new year their day, or rather twilight, began to increaſe; and the cold alſo increaſed to that degree, that it raiſed bliſters on their fleſh as if they had been burnt, and if they touched iron it ſtuck to their fingers. On the third of February they were cheared again by the bright rays of the ſun, which ſhone upon the tops of the ſnowy mountains, and, after ſo long and diſmal a night, afforded them the moſt delightful ſcene that ever was beheld. What added to their joy was the appearance of the bears, one of which they killed at the door of their booth: but the cold was ſo intenſe, that they could not ſtay there to take off her ſkin, but dragged her into their houſe, and there cut her to pieces. Upon this they fed twenty days; and afterwards they killed ſeveral other bears, one of them ſix feet high; and having now plenty of food, and eating

eating heartily two or three meals a day, they ſoon found their ſtrength increaſe.

TOWARDS the middle of March the days were conſiderably lengthened; and the fowls, which on the approach of winter fled to the ſouthward, began to reſort to Greenland again in great numbers. The foxes alſo, which had kept cloſe in their holes all winter, now appeared abroad; of which our countrymen took no leſs than fifty, and found them to be very good food when roaſted.

IN May the weather beginning to grow warm, and the ſeaſon for the arrival of the ſhips coming on, ſome of them went almoſt every day to the top of a mountain, to ſee if they could diſcern a ſail; but on the 25th of that month, none of them happening to go abroad, one of them in the outward booth heard ſomebody hail the tent, which proved to be one of the boat's crew belonging to a ſhip juſt come from England. Of this the man had no ſooner informed his companions, but they all ran out to meet their countrymen with ſuch tranſports of joy as cannot be expreſſed; by whom they were not only kindly received, but upon their return to England they had a handſome gratuity, and were well provided for by the generoſity of the merchants.

FROM the account of theſe poor mariners, thus providentially preſerved, and reſtored to their native country, we ſhall lead the mind of the reader to the natural inhabitants of Greenland; in which we ſhall follow the reverend Mr. Egede, a Daniſh divine, who reſided a number of years in a country, which had like to have proved fatal to the above Engliſh mariners, and where others that have been left there, have all actually periſhed.

INHABITANTS

INHABITANTS of GREENLAND.

THE people we are now to deſcribe are generally ſhort, fat, plump, and well proportioned. Their faces are ſomewhat flat, their hair black and lank, and their complexion of a browniſh red. They are ſeldom afflicted with epidemical diſeaſes, and are ſtrangers to the ſmall pox: the ſcurvy is the reigning diſtemper, and their common remedy is ſcurvy-graſs and other ſimples. They have neither ſurgeon nor phyſician among them, but readily rely on certain impoſtors, who pretend to be ſkilled in phyſic, and to foretel future events.

THEIR cloathing is made of the ſkins of their deer, the dog-fiſh, and of certain birds, ſewed together, with the ſmall guts of the ſeals; and there is very little difference between the habits of the two ſexes. The dreſs of the men conſiſts of a coat, with a hood ſewed to it, that covers the head and ſhoulders. This coat reaches down to the knees. Their breeches ſit very cloſe; they wear no linen; and the hair of the ſkins the coat is made of, is turned inwards to keep them warm. Over this coat, they wear a large frock made of ſeal ſkins, dreſſed and tanned without the hair, in ſuch a manner as to keep out the water. Between the leathern frock, and the under coat, they wear a kind of ſhirt, made of ſeals guts, which alſo helps to keep out the water from the under coat. However, thoſe ſeated near the ports frequented by the Danes and Dutch, have ſhirts of ſtriped linen, with coats and breeches, made of red and blue ſtuffs, which they buy of the Daniſh or Dutch merchants; but they are made after their own faſhion, and theſe

are

are worn upon extraordinary occaſions. They had formerly ſtockings made of ſeal, or rein-deer ſkins; but now they have worſted ſtockings of different colours, as white, blue and red, which they purchaſe of the Danes; and they have ſhoes and boots made of ſeal ſkins well dreſſed.

THE coats of the married women are much larger than the reſt; for in theſe they carry their children on their backs, they being their only ſwadling cloaths and cradle. They wear drawers, which reach to the middle of the thigh; and over them, breeches, which come down to the knee. The drawers the women keep on day and night; but the breeches they only wear when they go abroad in winter, and pull them off as ſoon as they come home. Next to their body, they wear a waiſtcoat made of a young fawn ſkin, with the hairy ſide inward. The coat is ſometimes made of fine coloured ſwan-ſkins, trimmed and edged with white, neatly wrought in the ſeams, and about the edges. Their ſhoes and boots are much like thoſe of the men. Their hair, which is thick and long, is braided and tied up in a knot; they commonly go bare-headed, both without and within doors; and in the ſouthern parts ſeldom wear their hoods, but when it rains or ſnows. Their principal finery conſiſts in wearing coral and glaſs beads of ſeveral colours, about their neck and arms, and pendants in their ears. Some of them have alſo bracelets of black ſkin, ſet with pearls, with which they adorn their cloaths, and even their ſhoes. They likewiſe make black ſtreaks between their eyes, on their fore-head, upon the chin, arms and hands, by paſſing under the ſkin, a needle and thread, made black. In the eyes of ſtrangers this appears extremely hideous, but they

think

think it ornamental, and ſay, that thoſe who do not thus adorn their faces, ſhall have their heads turned into train-oil tubs, that ſhall be placed under the lamps that burn in the land of ſouls.

THE Greenlanders have their winter and ſummer habitations. The former, which are the largeſt, are dug deep in the earth, and raiſed with ſtone and turf a little above the ſurface of the ground. In this hut, the windows are on one ſide, made of ſeals guts, dreſſed and ſewed together; or the maws of holybutts, which are white and tranſparent. On the other ſide, are placed the beds, which conſiſt of benches, raiſed half a yard from the floor; their bedding being compoſed of the ſkins of ſeals and rein-deer. On the hearth is a great lamp, in the form of a half moon; and over it are hung their kettles, in which they boil their proviſions: theſe are formed of a kind of marble, or where they have the advantages of trade, of braſs, copper or tin. The entrance is dug narrow, and winding under ground, and the doors ſo low, that they creep on their hands and feet to get in, they being thus contrived to keep out the cold; and for the ſame purpoſe, the inſide is lined with ſeal ſkins. Some of theſe houſes afford lodging for ſeven or eight families, and though in one of them ten or twenty lamps of train oil are kept conſtantly burning, their ſmoke is not perceived to fill the room; for dry moſs rubbed very ſmall is laid on one ſide of the lamp, and being lighted, burns ſoftly, cauſing no ſmoke, unleſs it be laid on too thick. Theſe lamps give ſuch a heat, as not only ſerves to boil their victuals, but to render their rooms as hot as a bagnio: however, to thoſe who are not uſed to them, the ſmell of the houſe is extremely diſagree-

diſagreeable, both from the number of burning lamps, ſupplied with train oil; the various ſorts of raw meat, fiſh, and fat, heaped up in theſe places, and eſpecially their urine tubs, which ſmell intolerably.

THEIR ſummer habitations conſiſt of a kind of tents, made of poles, ſet in a circular form, bending to a point at the top, fenced by a double cover, the innermoſt of which is the ſkins of ſeals, or rein-deer, with the hairy ſide inward; and the outermoſt of the ſame ſkins, but without hair, and dreſſed with fat, to prevent their being penetrated by the rain. In theſe tents, they receive the light from a curtain made of the guts of ſeals ſewed together: in them they dreſs their meat with lamps, and have their beds. Their manner of dreſſing and eating their proviſions is extremely diſguſtful. Their common food is the fleſh of rein-deer and hares, all kinds of land and water-fowl, ſeals, ſeveral ſorts of freſh water and ſea-fiſh; and even ſome parts of the whale. They are ſaid to prefer the blood of the ſeal to any other drink; but though they uſually quench their thirſt with water, they can drink a great deal of brandy, without being intoxicated.

THE chief qualifications required in a wife are ſkill in domeſtic affairs, and in cutting and ſewing their garments. On the other hand, nothing recommends a man to the favour of the women, more than activity and ſucceſs in fiſhing and hunting. It is remarkable that relations never intermarry, even to the third or fourth degree of conſanguinity. They have a reſpectful idea of marriage; and in general, have but one wife. They are fond of their children to exceſs, and let them do whatever they pleaſe.

THE

THE chief employments of the men, are hunting and fiſhing, for which they have very curious tackle. The boats, in which they row out to ſea, are about ſix yards in length, and only about a yard broad in the middle, ending in a very ſharp point at both extremities. They are made of very thin narrow boards, faſtened together with whalebone, and covered with ſeal-ſkins. One man alone goes out in theſe boats, the top of which is covered with ſkin, with an opening in the middle, which, when a man has entered, is faſtened cloſe round his waiſt, ſo that no water can enter the boat. Theſe boats go at a prodigious rate, and a man will row ſixty or ſeventy miles a day, though he has but one oar, which is ſix or ſeven feet long, and flat at both ends. Theſe boats are eaſily overſet, which is little regarded, if the owner eſcapes with life. The largeſt of the boats are chiefly uſed by women. They have likewiſe a kind of open barges, which are alſo pointed at both ends, but are not very deep: theſe are covered with ſeal-ſkins, and are high at the extremities. They make uſe of them in conveying their effects in their emigrations, or when they embark for the whale fiſhery.

WHEN they go to catch whales, they put on their beſt apparel, perſuaded, that if they were not neatly dreſſed, the whale would ſhun them. Upon theſe occaſions, about fifty men and women ſet out together in one of the large boats. They ſtrike the whale with harpoons, to which are faſtened lines, two or three fathoms long, made of ſeal-ſkins, at the end of which is a bag of a whole ſeal-ſkin, filled with air like a bladder, that the whale, on flying away with the harpoon in his body, may be the ſooner tired, and the more eaſily found, the air bag preventing his ſtaying

ſtaying long under water. He no ſooner loſes ſtrength, than they attack him with their ſpears and lances, till he is killed; and then putting on their coats, made of dreſſed ſeal-ſkins, with boots, gloves and caps, laced ſo tight together, that nothing can penetrate them, leap into the ſea, and begin to ſlice off the fat, all round the body; they are even ſometimes ſo daring as to get upon the whale's back, while he is yet alive, in order to make the quicker diſpatch in killing him, and cutting away the fat.

THEY uſe much the ſame method in killing the ſeals, but in the northern parts, where the ſea is frozen, they look out for the holes which the ſeals themſelves make with their claws, of about the bigneſs of a ſhilling, that they may fetch their breath. On their finding one of theſe holes, they ſeat themſelves near it, and no ſooner perceive the ſeal put his ſnout to it for air, than they ſtrike him with a ſmall harpoon, which they have ready in their hand, holding in their other hand a ſtrap faſtened to it, a fathom in length. Having ſtruck the ſeal, ſo that he cannot eſcape, they cut the hole large enough to get him up through it; and as ſoon as they have got his head above the ice, kill him, and then lift him out. They have alſo other methods of catching ſeals: they make a great hole in the ice, or, in ſpring, find them made by the ſeals themſelves, thro' which they get upon the ice, in order to baſk themſelves in the ſun. Near theſe holes, they place a low bench, upon which they lie down on their belly, having firſt made a ſmall hole, near the large one, through which they ſoftly let down a pole, headed with a harpoon, a ſtrap being faſtened to it, which one holds in his hand, while another, lying upon the bench, with his face downwards, watches

watches the coming of the ſeal; which when he perceives he cries Ke, upon which he who holds the pole ſtrikes the ſeal. But in ſpring, when the ſeals lie upon the ice, near holes which they themſelves have made, the Greenlanders, diſguiſed in ſeal-ſkins, with a long pole in their hands, creep towards them, moving their heads forwards and backwards, and ſnorting like a ſeal; till coming near him, they ſtrike him with the pole.

FISHING being the principal concern of the Greenlanders, we are from thence enabled to judge of their capacities. This is of the utmoſt importance to them, ſince their whole ſubſiſtence depends on their ability in fiſhing and hunting. In fiſhing, they make uſe of hooks of iron or bone; their lines are made of whalebone cut ſmall and thin; and with this tackle they catch abundance of fiſh. Their way of fiſhing for ſmall ſalmon, or ſea trout, is as follows; at low water they build ſmall encloſures of ſtone, near the mouth of a river, or any other place where the ſalmon enters: when the tide comes in, the ſalmon which enter the river, paſs at high water over the encloſure, and remain in the river till the water ebbs, when the fiſhermen way-lay them, and ſtop the paſſage, till the time of low water, when the ſalmon are left on dry land, and may be caught with the hand: if they are left in holes, they take them with a pole, headed with iron hooks, or two ſharp pointed bones.

THE Greenlanders are accuſtomed from their infancy to an unbounded liberty, all of them being on a level. When they meet together, they expreſs their mirth by drumming, ſinging, and dancing; and though they have little regard to thoſe forms of ceremony and decorum, in which the politeneſs of other nations conſiſts,

their

their converſation is free, open and chearful; nothing pleaſing them better than merry jeſts and raillery. They live very ſociably, and repoſe great confidence in each other. Amorous intrigues of an unlawful kind are ſeldom or never heard of among them; and as they abſtain from theft, rapine, and violence among themſelves, they never, upon any pretence, make war on their neighbours. They eſteem themſelves greatly ſuperior to the Danes; and make no ſcruple of pilfering any thing from them, when it can be done with ſafety; but they have probably little idea of property; and as they behave with ſuch integrity to each other, it is natural to ſuppoſe that they have learned this pilfering of the Dutch and Daniſh ſeamen. They are extremely hoſpitable, and indeed have moſt things in common; ſo that if there be any among them unable to work, they admit him freely to their tables. They are particularly remarkable for their good nature, and inoffenſive behaviour: hatred and envy, ſtrife and rage, are ſeldom heard of among them. They have as great an abhorrence of ſtealing from each other, as any nation upon earth, and therefore keep nothing under lock and key; for being in no fear of loſing the fruits of their labour, they leave it free for every body to come at.

WHAT ſeems moſt extraordinary is, that tho' they are ſeated in frozen regions, that might be ſuppoſed to damp the genius, and extinguiſh the fire of imagination, they have a talent for poetry, and take extream delight in exerting it. The poems they compoſe are a kind of lyric odes, the harmony of which depends upon rhyme and quantity, there being a viſible regularity in the number of ſyllables, of which their verſes are compoſed, and even an evident regard to cadence

in

in their manner of repeating them. They uſe this ſort of poetry, which, every thing conſidered, is as far from being rude, as it is from being exact, to expreſs all their paſſions, as love, joy, grief, and more eſpecially anger; for here when two people quarrel, it is ſaid they challenge each other; not to fight, for that they never do but in jeſt, or by way of diverſion; but to contend in verſe; and he who firſt wants words to expreſs himſelf in this poetical duel, is eſteemed conquered, and thus the quarrel ends, without ſhedding blood, or a ſuit at law.

THOUGH the Greenlanders fix a certain value on iron, they neither uſe, nor have any knowledge of money; they are ſtrangers to trades, arts, and ſciences: they have no traffic among each other; and their commerce with foreigners is very inconſiderable. They never compute their time by weeks or years, but only by months; beginning their computation from the ſun's firſt riſing above their horizon in the winter: from whence they tell the moons, in order to know the exact ſeaſon, in which every ſort of fiſh, ſea animals, and birds, ſeek the land, in order to regulate their different employments. According to their aſtrononſical ſyſtem, the heaven's turn round the point of a huge rock. They ſay the moon was once a youth, and the ſun a young woman his ſiſter, with whom he was familiar in the dark; but ſhe being deſirous to find out her lover, rubbed her hands with ſoot, with which ſhe marked his white bear-ſkin coat; and hence they ſay came the ſpots in the moon. The ſun flying from his embraces, aſcended the air, whither the moon followed her, and ſtill continues to purſue, without being able to overtake her. This however, is probably only a fiction of their poets.

THEY

THEY are charged with having no idea of a God; but this is probably ill founded, as they are convinced of the immortality of the ſoul, and believe, that as ſoon as a perſon dies, he goes to the land of ſpirits, and there enjoys the felicity of hunting from age to age, while the body remains behind, and moulders in the duſt. They alſo maintain, that there is a ſpirit which they call Torngarſuk, to whom they aſcribe a ſupernatural power, though not the creation of the world. The Angakuts, or Prieſts, form very whimſical and inconſiſtent ideas of this ſpirit; ſome repreſenting him as without form, others giving him that of a bear, and others pretending that he has a large body, and but one arm. They aſſign him his abode in the lower regions of the earth, where they ſay the ſun conſtantly ſhines, and there is plenty of good water, deer and fowls. They likewiſe believe that a ſpirit reſides in the air, whom they name the Moderator or Retainer; for their Angakuts pretend, that he orders them to command the people to abſtain from certain things, as preſervatives from evil and danger. They are alſo perſuaded, that the elements are governed by certain ſpirits.

OUR author, who was ſent to Greenland by the Daniſh ſociety for propagating the goſpel, lived fifteen years among this harmleſs and inoffenſive people; and had the pleaſure of making a great number of converts. He returned to Copenhagen in 1736, and by his ſolicitations, a ſeminary was founded in that city for the education of miſſionaries to be ſent to Greenland.

THE trade of this counrty is carried on by the Copenhagen company, who annually ſend three or four ſhips; and the Dutch are prohibited from coming within ſeveral miles of their colonies.

colonies. The commodities Greenland affords for commerce, are whale-bone, whale-blubber, ſea unicorns horns, the ſkins of ſeals, bears, rein-deer, and foxes; which they barter for kettles of copper, braſs, and tin; ſhirts made of white, blue, red and ſtriped linens; coarſe woollen cloth; large fiſhing hooks, ſaw, knives, needles, and other hardware; looking glaſſes, rafts, poles, deal boards, and cheſts.

We hope the length of this article will be excuſed by the curious reader, as it contains many circumſtances worthy of being known; and relates to the people of a country, which from its coldneſs, has long been thought uninhabitable, by any of the human race.

CHAP. IX.

Of SWEDEN *and* LAPLAND.

Lakes, Springs, and Cataracts.

THE kingdom of Sweden is one of the largeſt in Europe, and in ſome places the ſoil is tolerably fruitful; but the great number of barren mountains diſperſed over the face of the country give it a diſagreeable aſpect. From the mountains fall innumerable rivers, or rather torrents, not many of them navigable, on account of the rocks and cataracts that obſtruct their paſſage; and theſe form ſeveral great lakes, ſome of which are fourſcore Engliſh miles in length and twenty in breadth. If therefore we make abatements for the mountains, lakes, woods, heaths, and marſhes, with which the country abounds, the habitable part of it will be reduced

to a ſmall proportion compared to the extent of the whole.

AMONGST the lakes of Sweden, that called Vetter is ſo remarkable in many reſpects, that it ought by no means to eſcape our notice. It divides Eaſt and Weſt Gothland, being in length from north to ſouth above eighty miles, and about eighteen broad in the middle, growing narrower towards each extremity. The water of this lake is very clear, and in ſome places ſo deep, that it has been ſounded with three hundred fathoms of line without finding the bottom. For the moſt part it is free from rocks, and has but few iſlands, the principal of which is Viſingſoe, lying in the middle of the lake. It is often diſturbed by ſtorms, and ſometimes ſo ſuddenly, that the ſurface begins to be ruffled before the leaſt breath of wind is perceived, ſo that the cauſe ſeems to proceed from the bottom of the waters; and it is no uncommon thing for boats to be toſſed by a ſtorm in one part of the lake, whilſt others not far off are in a perfect calm. That ſuch eruptions and agitations of the waters are promoted by ſubterraneous winds, ſeems to be confirmed by various phænomena; for immediately before a ſtorm, and whilſt the ſky is yet clear, there is perceived a noiſe like thunder in the lake, which Dr. Hearne tells us he has often heard himſelf, and which was always followed by a tempeſt. Of this the inhabitants of Viſingſoe are more ſenſible than any others, for from that part of the iſland whence the wind will blow the next day, they hear a confuſed noiſe like the firing of cannon; and when this rumbling is heard in the eaſt, it is generally followed by rain and hail. Some people have likewiſe obſerved, while the water has been very calm,

a great

a great number of little clouds, like ſo many darts, riſing up here and there from the bottom of the lake, which uniting in the air formed a mizzling rain; whence it plainly appears, that this is much owing to ſubterraneous winds. To ſuch winds undoubtedly, together with thoſe from above, we may attribute the ſudden thawing of the ice in the ſpring, which one minute is ſtrong enough to bear horſes and ſledges, and the next is broken to pieces. The ſtrange grumbling of the waters, which precedes this terrible eruption, warns travellers to make the beſt of their way; but thoſe who happen to be at a great diſtance from land are immediately drowned, or float upon ſhoals of ice till they meet with relief: and what is ſtill more dangerous, the ice ſometimes with the leaſt blaſt of wind ſinks ſuddenly to the bottom.

THE violent under currents of water obſerved in this lake are alſo very ſurprizing, which directly oppoſing the winds and waves, give the fiſhermen a great deal of trouble. From theſe, as well as from its unfathomable depth and ſubterraneous winds, it is ſuppoſed to have a communication under ground with another large lake called Venner, about forty miles to the weſtward; and this ſeems to be confirmed by ſeveral whirlpools that lie between theſe lakes, two of which have been ſounded, and found of a vaſt depth. What farther countenances this opinion is, that ſome years, without any viſible cauſe, the waters increaſe, and decreaſe again the following years, as ſeveral curious perſons have obſerved.

THERE is a ſpring not far from the lake Vetter, called the Hungry or Prophetic Fountain, becauſe they ſay it never has plenty of water but when there is a ſcarcity of corn the following year. It lies in a valley encompaſſed with ſandy

hills, and has this peculiarity, that in a rainy ſummer it is commonly dry, whereas in the drieſt ſummers it ſometimes overflows the highway near Vadſtein. In 1685, which was a very wet year, this ſpring was quite dried up; but the next ſummer, which was not ſo rainy, it was obſerved to increaſe: and in the very dry ſummer of the year 1705, when all the neighbouring ſprings entirely failed, this had a plentiful ſtream of water.

CATARACTS, as we have ſaid already, are frequent in the rivers of Sweden; but the moſt noted of all, and the only one worth giving an account of, is that within a few leagues of Gottenburg; where a river, which iſſues from the lake Venner, falls down a prodigious high precipice into a deep pit, with a terrible noiſe, and with ſuch violence, that large maſts, which are floated down the river to Gottenburgh, frequently dive ſo far under water by the fall if they happen to pitch endways, that ſome are half an hour, others three quarters, and ſome a whole hour or more, before they riſe up again to the ſurface. Many attempts have been made to find the depth of this hole, with lines of ſeveral hundred fathoms; but no bottom could ever be diſcovered.

WITH reſpect to Lapland, which lies to the north of Sweden, it ſeems in winter, upon a ſuperficial view, ſcarce fit to be the habitation of man; for in moſt places it abounds with rocks and mountains, whoſe ſummits ſeem to pierce the clouds, and are covered with everlaſting ſnow. In other parts, the country ſpreads out into barren heaths, and ſandy deſerts overrun with moſs, fern, and to appearance, unprofitable weeds; one barren wild, ſtretching beyond another, with little or no paſture growing on the intermediate ſpots. Beſides theſe inconveniencies, the length and

and ſeverity of winter, with the cold, hideous winter nights, and the depth of ſnow that covers this deſolate region, one would imagine ſufficient to deter every human being from fixing his abode in this inhoſpitable country. The account given by M. Maupertuis, of the rigour of this climate, when, by order of the French king, he went to determine the figure of the earth at the polar circle, is enough to make any man ſhudder, tho' his obſervations were made in the ſouthern borders of this country. He obſerves, that in December, the ſnow continually falling, or ready to fall, hid the ſun during the few moments he might have appeared at mid-day. In January the cold was increaſed to that degree, that M. Reaumur's mercurial thermometer, which at Paris, in the great froſt of 1709, it was thought ſtrange to ſee fall to fourteen degrees below the freezing point, was now got down to thirty-ſeven. The ſpirit of wine in the others was frozen; and if the door of a warm room was opened, the external air, in a moment converted all the vapour in it into ſnow; whirling it round in white vortexes. If they went abroad, they felt as if the air was tearing their breaſts in pieces; and within doors the cracking of the wood, of which the houſes are built, continually alarmed them with an increaſe of cold; and people are often ſeen in this country, who have loſt a leg or an arm, by the froſt. The cold, which during the winter is always very great, encreaſes by ſuch violent and ſudden fits, as are almoſt infallibly fatal to thoſe who have the unhappineſs to be expoſed to it; and ſometimes, ſudden tempeſts of ſnow riſe, that are ſtill more dangerous. The winds ſeem at once to blow from all quarters, and drive about the ſnow with

ſuch fury, that all the roads are in a moment rendered inviſible. "How dreadful is the ſitu-"ation of a perſon, ſays our author, ſurprized "in the fields by ſuch a ſtorm; his knowledge "of the country, and even the mark he may "have taken by the trees, cannot avail him; he "is blinded by the ſnow, and if he attempts to "find his way home, is generally loſt. In ſhort, "during the whole winter, the cold was ſo ex-"ceſſive, that on the ſeventh of April, at five in "the morning, the thermometer was fallen to "twenty diviſions below the point of freez-"ing, though every afternoon it roſe two or "three diviſions above it: a difference in the "height not much leſs than that which the great-"eſt heat and cold felt at Paris uſually produce "in that inſtrument. Thus in twenty-four "hours we had all the variety felt in the tempe-"rate zones in the compaſs of a whole year." At length, in ſummer, when the air is warmed by the ſun, this country is infeſted with ſuch ſwarms of gnats and flies of various ſpecies, that like clouds they darken the ſky, and obſcure the light of the ſun. Theſe fix on every part of the body, bite with unremitting fury; and ſome of them, wherever they fix, draw blood.

YET notwithſtanding all theſe diſadvantages, nature has beſtowed on theſe dreary regions ſuch conveniencies, that as much content and happineſs are to be found there as in many countries that enjoy the moſt favourable climate. The mountains, which riſe to a prodigious height, and are of great extent, are perhaps intended by the author of nature, to ſhelter the plains from violent winds; and even their wildneſs and irregularity appear very beautiful, eſpecially in ſummer, when the alternate ſucceſſion of hills and vallies

vallies exhibit a delightful variety of prospects; and there are some places, which in that season may be reckoned among the most enchanting spots in the world. It has also been found, that these mountains are extremely rich in ores and fossils, particularly the largest and clearest rock crystals, topazes, purple amethysts, quicksilver, native cinabar, and load-stones.

THOUGH the days in winter are extremely short, and the nights long and tedious, this is in some measure compensated by the pleasant luminous summers, when in the greatest part of this country the sun is several weeks visible above the horizon. Even in winter, the brightness of the moonlight, the twinkling of the stars, and the effulgent corruscations of the aurora borealis, afford a light sufficient for most occasions of life. Maupertuis observes, that "The short days are "no sooner closed, than fires of a thousand fi- "gures and colours light up the sky, as if de- "signed to compensate for the absence of the "sun. These fires have not here, as in more "southern climates, any constant situation. Tho' "a luminous arch is often seen fixed towards the "north, they seem more frequently to possess "the whole extent of the hemisphere. Some- "times they begin in the form of a great scarf "of bright light, with its extremities upon the "horizon, which, with a motion resembling "that of a fishing-net, glides softly up the sky, "preserving in this motion a direction nearly "perpendicular to the meridian; and most com- "monly after these preludes, all the lights unite "at the zenith, and form the top of a crown. "Arcs like those seen in France towards the "north, are here frequently situated towards "the south; and often towards both the north

" and ſouth at once. Their ſummits approach " each other; the diſtance of their extremities " widens towards the horizon. I have ſeen ſome " of the oppoſite arcs, whoſe ſummits almoſt " joined at the zenith; and both the one and the " other have frequently ſeveral concentric arcs " beyond it. Their tops are all placed in the " direction of the meridian, though a little de- " clination to the weſt; which I did not find to " be conſtant, and which is ſometimes inſenſible. " It would be endleſs to mention all the different " figures theſe meteors aſſume, and the various " motions with which they are agitated. Their " motion is moſt commonly like that of a pair " of colours waved in the air, and the different " tints of their light give them the appearance " of ſo many vaſt ſtreamers of changeable taf- " fety, and ſometimes they line a part of the ſky " with ſcarlet. On the eighteenth of December " I ſaw a phenomenon of this kind, that in the " midſt of all the wonders to which I was now " every day accuſtomed, raized my admiration. " To the ſouth a great ſpace of the ſky appear- " ed tinged with ſo lively a red, that the whole " conſtellation of Orion looked as if it had been " dipped in blood. This light, which was at " firſt fixed, ſoon moved, and changing into " other colours, violet and blue, ſettled into a " dome, whoſe top ſtood a little to the ſouth- " weſt of the zenith. The moon ſhone bright, " but did not in the leaſt efface it. In this country, " where there are lights of ſo many different co- " lours, I never ſaw but two that were red; and " ſuch are taken for preſages of ſome great miſ- " fortune. After all, when people gaze at theſe " phenomena with an unphiloſophic eye, it is " not ſurprizing if they diſcover in them armies

" engaged,

" engaged, fiery chariots, and a thouſand other " prodigies."

ANOTHER advantage is the twilight, which begins four or five hours before ſun riſe, and laſts as long after that luminary is ſet; indeed, many of the inhabitants ſleep away moſt of the dark ſeaſon, and employ the luminous part of the year, in their reſpective occupations; and generally ſuffer little in their health from this inconvenience.

FOSSILS.

SWEDEN abounds with various kinds of minerals and other foſſils; and among its mines there is one of ſilver, into which the workmen are let down in baſkets to the depth of above a hundred fathoms, where the roof of the mine is as high as a church, ſupported by vaſt arches of oak; and from thence they deſcend by ladders or baſkets to the loweſt part of the mine, at leaſt forty fathoms more. It is not known when this mine was firſt diſcovered, but it muſt have been wrought for many ages. The ore yields but indifferently, and requires great pains to refine it; however it annually produces about twenty thouſand crowns-worth of fine ſilver, of which the King has the pre-emption, paying one-fourth leſs than the real value.—Several mines of ſilver and copper were diſcovered laſt century in the Swediſh Lapland.

COPPER is found plentifully in ſeveral parts of Sweden, and is reckoned the fineſt in Europe. The moſt noted mine is of vaſt extent, and about eighty fathoms deep, but it is ſaid to have ſuffered much by the falling in of the roof; and the working of it is attended with great diſcouragement, from the large ſhare the crown

has in the profit *. The Copper made yearly out of this mine amounts to the value of two hundred thousand pounds, whereof the King has a fourth part, and a duty upon the remainder of 25 *per cent.* when it is exported unwrought. — Copper is of all metals the most ductile and malleable after gold and silver, and abounds much in vitriol and sulphur. It is found in glebes or stones of various forms and colours, which are first beaten small and washed, to separate all the earthy and impure parts wherewith they are mixed. After washing they are melted, and the metal run into a sort of moulds, which form large blocks, by some called Salmons, and by others Cakes of Copper. To render it more pure and beautiful, they melt it again once or twice, some of its coarse extraneous parts being left at each fusion, and a quantity of tin and antimony added; and in this state it is called Rose-Copper.—This metal is often found native in a malleable state, sometimes in beautiful branched forms or small slender fibres, and sometimes in little globular lumps, or masses of an irregular figure.

THE mines of Sweden likewise afford vast quantities of excellent iron, of which, besides

* Some years ago an Italian gentleman came into Sweden, with proposals to make copper a shorter and cheaper way than had till then been practised, so as to make that in five days which before required three weeks, and with fewer hands, and one-fifth part of the charcoal. The bargain was made, and his reward to be 100,000 crowns. His first essay succeeded to admiration; but when he came to work in earnest, and had got his new-invented furnaces built to his mind, the miners, as he complained, picked out the worst ore, and were otherwise so envious and untractable, that he failed of success, and lost his reward: nor was it without difficulty that he obtained leave to buy ore, and practise his invention at his own expence.

what

what is manufactured in the country, they export yearly to the value of near three hundred thousand pounds.—Of the nature of iron-ore, or the manner of working it, we need say nothing in this place, having in our first volume given a sufficient account thereof in speaking of our iron works in the forest of Dean in Gloucestershire: but we shall here take occasion to describe that wonderful fossil call'd the Magnet or Loadstone, which is found plentifully in the iron-mines of Sweden, and indeed in all countries that have such mines, tho' the best are said to be brought from Bengal and China.

THE Magnet is not properly to be considered as a distinct species of fossils, being in reality nothing but a very rich iron ore, found in detached masses of various forms and sizes, of a dusky iron-grey, and often tinged with a brownish or reddish colour. It is very heavy and hard, of an uneven surface, and of a firm structure, but usually with some porous irregularities within. It is endued with several extraordinary properties, as that of attracting iron, and directing its poles to those of the world, of which, so far as they relate to the Mariner's Compass, we have already taken notice *; but for the sake of such of our readers as may not be acquainted with the virtues and phænomena of the loadstone, we shall here enumerate some of the most remarkable. 1. Every magnet has two poles, one of which points northwards, the other southwards; and if the magnet be divided into ever so many pieces, the two poles will be found in each piece. 2. One of these poles attracts, the other repels iron, but no other body. 3. The magnetic virtue is communicated

* See Vol. I. under the arts, &c. of Great Britain.

nicated to iron by the touch, and that very ſpeedily; though the longer the iron touches or joins the ſtone, the longer will its communicated virtue hold. 4. The magnet loſes none of its own virtue by what it communicates to the iron. 5. A piece of iron ſo touched by the loadſtone, and nicely ſuſpended on a ſharp point, will ſettle itſelf in a direction nearly north and ſouth. 6. The end touched with the ſouth pole of the ſtone will point northwards, and ſo *vice verſâ*. 7. A ſtrong magnet, at the leaſt diſtance from a leſſer or a weaker, cannot draw to it a piece of iron adhering actually to ſuch leſſer or weaker ſtone; but if it comes to touch it, it can draw it from the other: and yet a weaker magnet, or even a little piece of iron, can draw away another piece contiguous to a greater or ſtronger load-ſtone. 8. A plate of iron only, but no other body interpoſed, can hinder the operation of the magnet, either as to its attractive or directive quality. 9. The virtue of a loadſtone may be impaired by lying long in a wrong poſition *, as alſo by ruſt, wet, &c. and may be quite deſtroyed by fire. 10. A piece of iron wire well touched, upon being bent round in a ring,

* Several ways have been tried, with little ſucceſs, for recovering the decayed virtue of loadſtones; but there is a remarkable experiment of this kind made by Mr. Haac, which anſwered the purpoſe ſo well that it deſerves to be mentioned. This gentleman had a loadſtone which would take up fourteen pounds and a half, but having laid it by for ſeveral years he found it had loſt great part of its virtue; which he endeavoured to recover by ſeveral means, but without ſucceſs. At laſt he reflected, that by uſe and exerciſe the powers of animal bodies were often improved, and it might poſſibly happen ſo with reſpect to ſome properties or powers of inanimate bodies. Upon this thought he hung as much weight to the ſtone as it would ſuſtain, and ſo left it for the ſpace of ſome weeks. Then returning he applied more

a ring, or coiled round on a ſtick, will generally loſe its directive virtue, or at leaſt have it much diminiſhed; but if the whole length of the wire be not bent, ſo that the two ends be left ſtrait, the virtue will not be deſtroyed in thoſe parts, though it will in all the reſt. 11. A piece of wire that has been touched, being ſplit or cleft in two, the poles are ſometimes changed, as in a cleft magnet, the north becoming the ſouth, and the ſouth the north; and ſometimes one half of the wire will retain its former poles, and thoſe of the other half be changed. 12. By drawing the back of a knife, or a long piece of ſteel-wire, &c. leiſurely over the pole of a magnet, carrying the motion from the middle of the ſtone to the pole, the knife or wire will accordingly attract one end of the needle; but if the knife or wire be drawn from the ſame pole to the middle of the ſtone, it will repel that one end of the needle which in the other caſe it attracts. 13. If either a magnet or piece of iron be laid on a cork, ſo as to float freely in the water, it will be found, that which ſoever of the two is held in the hand, the other will be drawn towards it; ſo that iron attracts the magnet as much as it is attracted by it. 14. As the magnet communicates its virtue to iron, ſo when armed (as they call it) or ſet in iron, it will take up a greater weight of it than it can alone *. 15. A knife, &c. touched with a mag-

more weight to the former, which it eaſily bore; and thus by repeating the addition of more weight at ſeveral periods, in about two years time the ſtone had not only recovered its former ſtrength, but increaſed it ſo far, that it would now take up more than twenty pounds.

* It is likewiſe obſervable, that the power or force of magnets is generally greater in ſmall than in large ones, in proportion to their bulk. Thoſe of a large ſize will rarely take

a magnet acquires a greater or leſs degree of virtue, according to the part it is touched on. It receives the ſtrongeſt touch when it is drawn ſlowly from the handle towards the point over one of the poles of the magnet; and if the ſame knife thus touched, and in poſſeſſion of a ſtrong attractive power, be retouched in a contrary direction, viz. by drawing it from the point towards the handle over the ſame pole, it immediately loſes all its virtue. 16. The magnet acts with the ſame force in vacuo, as in the open air *.——We may

take up more iron than three or four times their own weight; whereas if ſmall ones do not take up more than eight, ten, or twelve times their weight, they are reckoned but indifferent. A gentleman at Bruton in Somerſetſhire, had a magnet, whoſe weight, with the armature, was but 43 grains, and yet would take up 1032 grains, which is 24 times its weight: and we have heard of another gentleman who wears one in his ring, that ſcarce weighs three grains, and will take up near 750 grains, which is 250 times its weight; but this is an inſtance hardly to be parallelled.

* Theſe are the principal phænomena of the magnet; but to account for the manner in which they are produced, we have yet no ſatisfactory hypotheſis. Some of the ancients aſcribe the action of the magnet to a ſoul that animates it, and others to a certain ſympathy between the effluvia of iron and thoſe of the magnet. The chief opinion that prevails among the moderns is that of Des Cartes, maintained by Malebranche, Rohault, &c. and even admitted and confirmed by Mr. Boyle and other great philoſophers. This ſuppoſes a ſubtle, impalpable, and inviſible matter, ſtriated or channelled, continually circulating round the earth in the plains of the meridians, re-entering at the pole oppoſite to that from which it iſſued, and ſo paſſing through the earth in a direction parallel to its axis. The magnet, it is imagined, has two poles anſwerable to thoſe of the earth, and out of theſe iſſues a matter like that juſt mentioned, which gives the impulſe whereby iron tends to the magnet, and produces what we call Attraction. Now beſides the matter re-entering the poles, there is a quantity of it continually circulating round

may add to this, that iron bars, by ſtanding long in an erect poſition, acquire a magnetic virtue to a ſurprizing degree, the lower end of ſuch bars being the north pole, and the upper the ſouthern. Nay, tongs and pokers, by being often heated, and ſet to cool again in a poſture nearly erect, have acquired this wonderful property.

THERE is a ſort of ſtone found in Sweden, which yields ſulphur, vitriol, alum, and minium, whereof Sir Gilbert Talbot has given us the following account. It is ponderous, and of a yellow colour, intermixed with ſtreaks of white, as if compoſed of gold and ſilver. It runs in veins among the rocks, on which they lay wood and ſet it on fire; and when the ſtone is heated, they throw water upon it to make it rend, and dig it up with mattocks. They afterwards break it into ſmaller pieces, and melt it in ovens, in iron pots, which are placed ſloping, ſo that the melted matter may run out of one pot into another ſet to receive it at the mouth of the oven. This running of the ſtone is Sulphur; and the remaining maſs is carried out, and laid on a hill, where

round the magnet, and forming a kind of vortex; and the ſpaces wherein this matter moves is the ſphere of the magnet's activity, within which its attractive faculty is confined. The eſſence of a magnet therefore is ſuppoſed to conſiſt in its being perforated by an infinite number of parallel pores, ſome whereof are diſpoſed to admit the ſtriated matter from the north pole of the world, others that of the ſouth; and hence the north and ſouth poles of the magnet.——Mr. Whiſton takes the directive power of the loadſtone to be mechanical, aſcribing it to the circulating effluvia, of which he thinks there are evident indications in magnetic experiments; as Mr. Boyle thinks there are of the magnetic effluvia of the earth, tho' they were never yet rendered ſenſible: But the attractive power Mr. Whiſton ſuppoſes entirely immechanical, like the power of gravity.

it

it is expoſed to the ſun and air for two years. It then takes fire of itſelf, yielding a thin blue flame, ſcarce diſcernible in the day-time, and leaving a blue duſt behind it; which the workmen obſerving, they dig it up, and put it into great tubs of water to infuſe for twenty-four hours. The water is afterwards boiled in kettles, and put into cooling tubs, wherein croſs ſticks are placed, on which the Vitriol faſtens like ſugar-candy. What remains of the water, after the extraction of the vitriol, is mixed with an eighth part of urine and the lees of wood-aſhes; which being again boiled very ſtrong, and ſet to cool in tubs, the ſticks placed in them are incruſted with Alum. In the water that remains after the alum there is found a ſediment, which being ſeparated from the water, and burnt in an oven, becomes red, and is the Minium wherewith they paint their houſes *.

ANIMALS.

THE vaſt woods and mountains of Sweden and Lapland abound with wild beaſts of various kinds, ſuch as bears, elks, deer, wolves, foxes, &c. moſt of which are too well known to need a deſcription. The Elk, indeed, is a creature which ſome of our readers may neither have ſeen nor heard of, and therefore we ſhall deſcribe it here, though it is not peculiar to Sweden, but found in the foreſts of Muſcovy, Poland, and

* What we commonly call Minium, or Red Lead, is a preparation of lead, made by melting the metal in an unglazed earthen pan, and ſtirring it till it be reduced firſt to a blackiſh, then yellowiſh, and laſtly to a very red powder, which is of ſome uſe in medicine, but of more in painting.

other

The Elk

A Laplander *Travelling over deep Snow, in a Sledge drawn by a* Rein Deer.

other parts of Europe, and abundantly in North America. This beaſt is like a mule in ſize and ſhape, but has a longer ſnout, a ſhort tail, cloven feet, and two large branched horns growing backwards, (the female as well as the male), which weigh frequently three and ſometimes four hundred pounds. Its hair is brown, and about the length of that of a goat; its ears nine inches long, but its tail not above two inches; its neck ſhort and thick; its ſkin ſtrong and hard, though thin; and its fleſh very delicate food, eſpecially that of the female. The ligaments of its joints are exceeding ſtrong, which has perhaps been the occaſion of ſome authors reporting that it has no joints in its legs at all; but this is a great miſtake. It does not run, but its trot is almoſt equal to the ſwifteſt running of a deer; and it is ſaid to kick with ſuch force, that the blows will break trees of a conſiderable thickneſs.—The elk (they tell us) is much ſubject to the epilepſy, and it having been obſerved, that the animal frequently ſcratches its head with his hind feet, it has been whimſically apprehended to be done as a remedy for that diſtemper. Hence the hoof of the elk has acquired a reputation as a ſpecifick againſt epileptic diſorders, either taken internally or externally applied, and it is accordingly ſold in the ſhops; but there is great reaſon to believe that its virtue is only imaginary *.

THE Rein-Deer of Lapland are of wonderful ſervice to the inhabitants of that country, who

* Ancient authors relate, that the northern people catch the elk by watching the opportunity when it falls down of the epilepſy, and laying hold of it before it recovers ſtrength enough to put its left hind foot in its left ear, which cures it immediately; and it is that particular hoof, forſooth, which is the applauded remedy for the falling ſickneſs.

bring

bring them up to be tame and tractable, feed upon their milk and flesh, make cloaths of their skins, and use them to draw sledges, in which they travel over the snow with prodigious swiftness. This creature is somewhat less than a stag, has two branched horns, and long rough hair under his neck. His colour inclines to an ash, but his haunches and his shoulders, and the parts under his belly are white. Their feet are thick, short, and cloven; and when they walk their joints make a sort of noise like the clashing of stones one against another. Their ordinary food is moss, and with this sustenance only they will perform journeys of eighty or a hundred miles a day.——The sledges in which the Laplanders are drawn by the rein-deer, are shaped like boats, only they are flatted behind, and not pointed, as they are before. The bottom of the sledge is convex, that it may slide with more ease over the snow; and the traces are fastened about the neck of the animal, going down his breast and between his legs. The reins are tied to his horns, whereby he is guided by the traveller, who by the motion of his body, and the help of his hand, takes care to balance the sledge, and prevents its overturning, of which it is often in danger by reason of the roundness of its bottom. They hang bells to the trappings of the rein-deer, with which those animals are much delighted.—When the Laplanders go a hunting, they use a sort of skates, which are flat boards, four or five feet long, pointed at each end, and turned upwards before; and having a long pole in their hands, with a piece of board fastened to the end of it, that it may not sink too deep into the snow, they run over it with great swiftness, so as to go fifty or sixty miles a day without much fatigue.

THE

THE Sable Mice of Lapland, which are the ſame with thoſe called Norway Mice by Olaus Wormius, deſerve the attention of the curious; but of theſe we have given a particular deſcription, they being the ſame with the lemming mentioned in Vol. II. page 248, 249.

INHABITANTS OF LAPLAND.

BEFORE we take leave of Lapland, it may not be amiſs to give ſome account of its inhabitants, as they are in many reſpects a very remarkable people, and far different in their manners and cuſtoms from other nations of Europe. With reſpect to their ſtature, they are the ſhorteſt men in all the north, being ſeldom above four foot and a half high, and ſome of them even under that ſize. Their aſpect is generally homely, having a large head, hollow eyes, a broad face, a flat noſe, and ſhort black hair. They have broad breaſts, ſlender waiſts, and ſmall legs, but are very ſtrong, ſwift, and nimble. The women are ſomewhat handſomer than the men, having black eyes, and a complexion mixed with a natural red and white, which is not diſagreeable. They are ſuperſtitious, timorous, and paſſionate, and have only confuſed notions of chriſtianity; but they are charitable and hoſpitable to ſtrangers. Hunting and fiſhing are their chief and almoſt only employments.

THE fleſh of the rein-deer, their milk, the cheeſe they make of it, and the fiſh they take in their ſeas, lakes, and rivers, are the principal part of their food. Brandy, and other ſpirituous liquors, they are very fond of; but their uſual drink is water, of which they have a kettle always over the fire in winter; and they alſo drink the broth

broth of fish and flesh boiled together. In summer they wear a close garment made of coarse wool, of a light-grey colour without dying, which reaches down to the middle of their legs; and round them they wear a belt or girdle, at which hangs a knife, and a pouch, wherein they keep their flint, matches, tobacco, &c. Their winter-cloaths are the skins of rein-deer with the hair inwards, of which they also make shoes, boots, caps, and gloves; and the nerves of the animal serve them for thread. The women's apparel is not much different from that of the men; but they have more trinkets hanging to their girdles, such as chains, rings, knives, a needle-case, &c. weighing sometimes twenty pound.

THE habitations of the Laplanders are rather huts than houses, consisting of pieces of timber or rafters joined together, and covered with turf or the branches and bark of pine-trees. They have no chimneys but a hole at the top of the hut, which serves to let out the smoke, and to admit the light. In some parts of the country they build their store-houses on trees, to secure their provisions from bears and other wild beasts.

THE Laplanders, in hunting, make use of bows about three yards long, in handling of which they are very dextrous, being trained up to it from their infancy; insomuch that some of them will shoot an arrow into a circle no bigger than a farthing, at such a distance as they can but just discern it. For the larger sorts of beasts they sometimes use fire-arms and spears, or dig pits for them to fall into; others they take in traps, catch them with dogs, or kill them with poisonous baits. They account the flesh of the bear a great rarity; and he that kills one is distinguished

tinguiſhed by laces round his cap wrought with tin-wire, on which occaſion they make great feaſting.

When a Laplander has a mind to marry, he looks out for a young woman poſſeſſed of a great many rein-deer, in which the riches of theſe people chiefly conſiſt; and it is the cuſtom for parents to give their children ſome rein-deer as ſoon as they are born, which, with all their increaſe, belong to them ever after. The more of theſe animals a maid has, the ſooner ſhe may expect a huſband, for the Laplanders do not much regard beauty or other qualifications. As to the poorer ſort, they are content to marry a man's daughter who lives in a convenient place for fiſhing and hunting.——When the ſuiter goes to pay his firſt viſit to the woman he intends to marry, he is accompanied by ſome of his friends, one of whom is to negotiate the matter, and carries with him ſome bottles of good brandy or other ſpirituous liquor. Being arrived at the hut, they are all invited in except the ſuiter, who ſtays without for ſome time, till the company have drank round, and his friend has made the propoſal to the young woman's parents. The man is then called in, and takes a dram or two with the company, but without ſeeing the girl, who in the mean time is ſent abroad. If the father conſents that the young man may pay his reſpects to his daughter, he goes out of the hut to his ſledge, puts on his beſt apparel, and returns to ſalute his miſtreſs with a kiſs; after which he makes her a preſent of a rein-deer's tongue, and ſome other trifles, which ſhe refuſes to receive in the preſence of her relations; but going out of the hut with him, ſhe accepts them. The lover then deſires her to let him ſleep near her in the

the hut, which if ſhe grants, the marriage is as good as concluded; if not, ſhe throws the preſents on the ground, as a mark of her refuſal. After marriage the bridegroom is obliged to ſerve his father-in-law a year, before he takes away his wife and her patrimony of rein-deer, at which time all the friends make preſents to the new-married couple.

SOON after a child is born, they waſh it with ſnow or cold water, and then wrap it up in the ſkin of a hare. The women do not keep their bed above four or five days, and as ſoon as they have recovered ſtrength, they ſet out with the child at their backs to have it baptized, for which purpoſe they are often obliged to take long journeys. Their cradles are made of a piece of hollow timber, like a ſmall boat; in which the child is laid upon a kind of ſoft fine moſs, and covered over with the tender ſkin of a young rein-deer. The cradle is ſuſpended by a rope from the roof of the hut, and by toſſing it to and fro they lull the child to ſleep.

THE Laplanders have no phyſicians amongſt them, nor indeed have they much occaſion for any, as they are very ſeldom afflicted with ſickneſs. For the cure of all inward diſtempers they make a drink of a certain moſs which they call Jerth, or inſtead of that chew the root of angelica, or boil it in rein-deer's milk. When they feel a pain in any part of their body, they take a kind of fungus or muſhroom growing upon the birch-tree, and, having ſet fire to it, they apply it burning hot to the part affected; and this occaſions a bliſter, which they imagine draws off all the bad humours. For wounds they have no other remedy but the reſin that oozes from the fir-tree; and when they have any member frozen, they

they run a red-hot iron into a cheeſe made of rein-deer's milk, and with the fat that drops from it anoint the part, which by that means is almoſt inſtantly cured.

As to their funerals, if a deceaſed Laplander was rich, his corpſe is wrapped in linen; but if he was poor, he has only a woollen ſhroud. They put into the coffin along with the deceaſed a flint and ſteel and a hatchet, which they imagine he may have occaſion for in his journey to a place of reſt. But this is only the practice of thoſe who are ſtill Heathens, or have very groſs notions of the Chriſtian profeſſion. The corpſe is drawn in a ſledge by a rein-deer to the place of burial, after which the creature is killed to make a funeral entertainment, to which all the friends and relations of the deceaſed are invited.

MANY ſtories are told of the wizards or conjurers of Lapland, who pretend to foretel future events, and are thought to have a power of inflicting diſeaſes on whom they have a mind, on which account they are held in great veneration by the poor ignorant Laplanders, who take all imaginary care to avoid their anger: but ſtories of this kind are neither to our purpoſe, nor worth repeating; and therefore we proceed to conſider ſome of the buildings of Sweden, with which article we ſhall conclude this chapter.

BUILDINGS.

IN this northern country we find but few buildings that are ſo elegant or magnificent as to deſerve particular notice. Several of the churches in Stockholm are very large and handſome ſtructures, but that of St. Nicholas is both the largeſt and moſt magnificent, it being ſupported by marble

marble pillars, and covered with copper. It is alſo adorned with a great number of tombs of different kinds of marble. The ſtatue of St. George on horſeback, killing the dragon, is much admired. This is the fabulous hiſtory of his delivering Cleodolinda, the daughter of the king of Lydia, and twelve other virgins, from the fury of the dragon; and that princeſs is ſeen kneeling with her hands lifted up. Over the altar is a cabinet finely gilt, on which is a table of a pyramidal form, with ſhelves of maſſy ſilver, adorned with the following hiſtories in baſſo relievo: on the firſt is the nativity of Chriſt; on the ſecond, his laſt ſupper; on the third his crucifixion; on the fourth is his burial; and on the fifth his reſurrection. Theſe are all of ſilver; and on the top is a ſtatue, about two feet high, of the ſame metal, repreſenting the aſcenſion. About the altar are other ſilver ſtatues of the ſame height, as that of Moſes, with the two tables of the law; John the baptiſt; and the evangeliſts, with the animals uſually aſſigned them, by painters and ſtatuaries; all of them weighing together about thirty thouſand ounces. On the right ſide of the altar is a large picture of heaven and hell, which reaches from the roof to the floor; and on the left ſide, is painted the crucifixion.

THE cathedral of Upſal is eſteemed one of the fineſt churches in the kingdom; it has been five times deſtroyed by fire; the laſt time was in 1702; but it has ſince been rebuilt with great magnificence, and is adorned with ſtately monuments of ſome of the kings of Sweden.

THE cathedral of Lunden is a magnificent ſtructure, and has a very lofty ſpire, which ſerves as a mark for ſailors, it being ſeen at a great diſtance.

THE

The altar of this church is a beautiful piece of work; but what moſt engages the attention of a ſtranger is its curious clock, which for the number of its movements and figures may vie with thoſe of Lyons and Straſburg. Every hour two horſemen come out and encounter, and a door opens, which diſcovers the virgin Mary ſitting on a throne with Chriſt in her arms, and the Magi with their retinue marching in order and preſenting their gifts, two trumpeters ſounding all the time of the proceſſion. This clock, beſides the hour, ſhews the month and day, and every feſtival throughout the year: but however ingenious the mechaniſm of theſe celebrated clocks may be, we are inclined to think, that pieces of clock-work equally curious and wonderful, if not more ſo, have lately been made in England.

As Sweden affords us ſo little that is remarkable under this head, we ſhall detain the reader no longer in that country, but conduct him acroſs the Baltic into the kingdom of Poland.

CHAP. X.

Of POLAND.

FOSSILS.

THIS country is of great extent, and the ſoil is generally fertile, fit for tillage and paſture, ſo that it produces abundance of corn, and feeds vaſt numbers of cattle. It is rather flat than mountainous, except on the ſide of Hungary, from which it is ſeparated by a long chain of crag-

gy hills, called the Crapack or Carpathian mountains. Some of its mountains afford mines of silver, copper, lead, and iron; but the most considerable of all are the salt mines in the Lesser Poland, which are the chief riches of the country, and make one of the best branches of the king's revenue. These mines are near a little town called Wilizka, a few leagues from Cracow, and have now been opened above five hundred years, being first discover'd in 1251. There are several descents into them, the two principal whereof are in the town itself, through which the salt is drawn up; the rest serve to let down timber and other necessaries. Above ground there is a large wheel, turned round by a horse, with a strong rope as thick as a man's arm; to this is fastened another rope, which a man ties round him in such a manner as to sit in it, and take another person in his lap; whereupon the large rope being let down a little way, a second rope is fastened to it, on which another man seats himself, taking likewise one in his lap; and he being lowered a little, gives place for others to succeed him. Thus thirty, forty, or more, are let down at a time to the depth of a hundred fathoms, where they come to ladders, by which they descend a hundred fathoms lower, the earth in the several passages being supported with strong timber. Here a stranger is surprized to find a kind of subterraneous commonwealth, consisting of a great many families, having their peculiar laws and polity, and even publick roads and carriages, horses being employed to draw the salt to the mouths of the mine, where it is taken up by engines. These horses, when once they are down, never see the light again; and indeed many of the people seem to be buried alive

in

in this ſtrange abyſs, ſome being born there and never ſtirring out, though others have frequent opportunities of breathing the village air, and enjoying the light of the ſun. It alſo raiſes a travellers admiration, to behold in this capacious mine a long ſeries of lofty vaults, ſuſtained by huge pillars of rock-ſalt cut with the chiſſel, which, by the light of flambeaux inceſſantly burning, appear like ſo many cryſtals or precious ſtones of various colours, caſting a luſtre which the eye can hardly endure. The ſubterraneous paſſages or galleries are very ſpacious, and in many of them are chapels hewn out of the rock-ſalt; and in theſe are ſet up crucifixes and the images of ſaints, before which a light is kept conſtantly burning. The places where the ſalt is hewn out, and the empty cavities whence it has been formerly taken, are called chambers; and ſome of theſe are ſo ſpacious, that a large church might be incloſed in one of them. Several of theſe chambers are made uſe of, as warehouſes for the ſalt-caſks, or barns for holding the fodder for the horſes, while others ſerve for ſtables. In ſome chambers, where water has formerly ſtagnated, the bottoms and ſides are covered with incruſtations of ſome thouſands of ſalt cryſtals, one upon another, many of them weighing half a pound or more; and when any candles happen to be brought, the numerous rays of light reflected by theſe cryſtals, emit a ſurprizing luſtre. The ſalt is hewn out of the mine in large cylindrical pieces, the workmen uſing hammers, pick-axes, and chiſſels, much as in our ſtone quarries; which pieces, when drawn up to the top, are broken into fragments fit to be thrown into the mill, where they are ground into a coarſe ſort of powder, ſerving all the purpoſes of our common ſalt. However, it is proper to obſerve, that the

ſalt dug here is of three kinds, the firſt a coarſe blackiſh ſalt, the ſecond a little finer and whiter, the third very white and clear as chryſtal, which is properly the Sal Gemmæ of the Druggiſts, and is frequently uſed for toys, chaplets, little vaſes, &c.—But we muſt not forget to mention one of the greateſt wonders of this ſalt-mine, which is a rivulet of freſh water running through it, ſufficient to ſupply all the occaſions of its inhabitants, who are not leſs than a thouſand people.

THAT beautiful tranſparent ſubſtance called Amber is found plentifully on the coaſts of Pruſſia *, concerning the nature and origin whereof there has been a vaſt diverſity of opinions, ſome referring it to the mineral, others to the vegetable, and others to the animal kingdom †. There is, however, little doubt to be made, but that it is

* Amber is found in ſeveral parts of Europe, but no where in ſuch abundance as in Pruſſia, both dug out of the earth and fiſhed out of the Baltic ſea: The coaſts of Pomerania, Samogitia, Courland, and Livonia, afford it in conſiderable quantities; and it has been often dug up in Denmark. It is met with in ſome parts of France and Italy, nor is our own country without it; for Dr. Woodward mentions ſeveral places where it is found in England, and Mr. Hill tells us he has picked up ſome fine and beautiful pieces on the Yorkſhire coaſt. The neighbourhood of London alſo affords ſome that is tolerably fine, as the laſt mentioned gentleman obſerves, who has had a piece of Amber wrought, and wears it in the head of a cane, near three inches long, which he found in the great tile-clay pit behind St. George's Hoſpital at Hyde-Park-Corner.

† Pliny deſcribes Amber as a reſinous juice, oozing from aged pines and firs, and thence carried into the ſea, where it undergoes a change, and is then thrown again upon the ſhore. The opinion of this ancient naturaliſt has been eſpouſed by many of the modern ones, ſome of whom to this day ſuppoſe Amber to be a vegetable reſin. Others have imagined it a concretion of the tears of birds, others the urine of a beaſt, &c. but we make no ſcruple to join with thoſe who look upon it as belonging to the mineral claſs of bodies, and accordingly ſpeak of it under the head of Foſſils.

wholly

wholly of mineral origin, and is a bitumen once liquid, much like Naphtha or Petroleum, hardened and brought into its present state by a mineral acid of the nature of the spirit of sulphur or oil of vitriol, both these substances abounding in the earth, and an artificial mixture of them producing a body very much resembling the native Amber. This fossil is of a fine, uniform, and regular texture, very light, yet heavy enough to sink in water, is naturally of a rough surface, yields a fragrant smell when rubbed, and is endued with the property of attracting light bodies, which from its name (Electrum) is called Electricity. It is found in various shapes and sizes, but its most usual standard is between half an inch and three inches in diameter. Its natural colour is a very beautiful pale yellow, but it is subject to be altered from this by heterogeneous mixtures of metalline or earthy particles, received into it while not yet perfectly hardened. Hence it is sometimes white, sometimes brown, and sometimes even black and opake, in which last state it is preferable to the finest jet, though some say there is no such thing as black Amber; and sometimes, but rarely, it is found tinged with a reddish or greenish cast, and yet as pellucid as the common Amber. It is considerably hard, breaks with a smooth surface, and even in the largest pieces is very transparent.

In Prussia, where vast quantities of amber are dug out of the earth, it lies usually below five strata in the following order. The uppermost is a coarse yellow sand; the second a whitish clay; the third a blue clay; the fourth a substance resembling wood, but made up of several flakes lying over one another; the fifth a stratum of the pyrites, or a kind of vitriolic ore; and the sixth another of yellow sand, amongst which the Amber

lies, and is extracted with convenient instruments. Besides this, there is plenty of Amber found in the Baltic sea, which the country people take up with nets, and this is called fished or draught Amber; what is gathered on the shore from among the weeds and sand being distinguished by the name of Picked Amber, and what is dug out of the earth by that of Fossil Amber. These however are not three distinct species of Amber, but undoubtedly formed in the same manner; that found in the sea or thrown upon the shore being probably carried thither by the rivers, or washed by the waves in tempestuous weather from amongst the rocks, and those subterraneous places where Amber is produced and nourished.

NATURE seems to have been very curious in the formation of Amber, the lumps of it being frequently shaped like pears, almonds, pease, &c. and the several figures and representations observed in some pieces of Amber are also surprizing: but what is most wonderful, and difficult to account for, are the several animals, leaves, &c. which are sometimes found buried in this fossil. M. Hartman, who has given us a history of the Prussian Amber, reckoned above thirty species of insects inclosed in pieces he was possessed of, as flies, spiders, ants, bees, beetles, &c. and some authors mention frogs, lizards, and small fishes inclosed in Amber, but the truth of this may be suspected*.

How

* It is certain, some artists have a method of inclosing these animals in Amber; to distinguish which from those that are so entombed by nature, we may observe, that in the former the insect is not far from the surface, but in the latter it is in the center; for the Amber-polishers could not so well conceal their art, if they put their animals in the superficial parts of the Amber, where the transparency would the more readily discover the cheat. If the Amber wherein animals are

How theſe animals come to be immerced in Amber, is a queſtion much agitated amongſt the curious enquirers into the works of nature. Some have endeavoured to account for it by ſuppoſing Amber to have been of vegetable origin, as if animals could more eaſily be entangled in the reſinous and gummy juices of trees; but this is not ſupported by experience, for inſects are ſeldom or never found incloſed in ſuch juices, but only adhering externally to their ſurface. Others again have denied them to be real inſects, but any one may be ſatisfied of the contrary by viewing ſuch a piece of Amber when cut or broken, for evident traces of the little animals ſtill remain.—Inſects thus found in Amber are indeed an unqueſtionable proof of its having been once in a liquid ſtate, and the better to underſtand how they came to be incloſed in it, we need only reflect, (ſays M. Hartman) that it is uſual for them in rigorous ſeaſons to ſeek for ſhelter and ſleep in caverns, where they are covered and buried in the bituminous matter which afterwards hardens into Amber. And on this occaſion we are to conſider that all the pieces of Amber which contain flies, and other inſects, are of that kind which is picked up on the ſeaſhore, very few accounts that can be depended upon having yet been given of any dug out of the earth with ſuch animals incloſed. Now as the native liquid bitumens are continually trickling down the outſides of rocks and hills, and as ſome of this matter may be lodged in ſmall cavities, or otherwiſe

are incloſed be ſolid, clear, free from cracks, and without a contexture of different cruſts, it is a ſure ſign of its being artificial; for the parts of Amber, wherein inſects are naturally repoſited, (as M. Hartman a thouſand times obſerved) either cohere like bark, or are interſected every way with fiſſures, in which ſome parts of the animal appear externally.

detained on the ſurface of the earth, where it may leiſurely be changed into Amber, it is not much to be wondered at, if flies and ſuch-like inſects are ſometimes incloſed and bedded in a foſſil formed after that manner.

THE people who live on the Pruſſian coaſt, and in other places where Amber is produced, obſerve, that ravens, crows, aſſes, ſheep, and ſeveral other animals are extremely fond of it; and that pieces of it are frequently found in their excrements, and in their bodies when opened. It is in conſiderable repute for its medicinal virtues, being uſed in fumigations to remove defluxions, and its fumes received at the mouth are often ſucceſsful in the beginning of a quinſey. In the time of the plague, thoſe who work in Amber at Koningſberg are ſaid never to be infected; whence it is looked upon as a preſervative againſt contagion: and taken in powder it is diuretic, expels gravel, and promotes the menſes.

As to the electricity of Amber, or its power of attracting ſtraws, paper, and other light bodies, it is really very ſurprizing; but the ſame property is alſo found in jet, glaſs, ſealing-wax, moſt kinds of precious ſtones, and in all reſinous and bituminous ſubſtances*. This ſpecies of attraction differs from magnetiſm in this, that the latter only attracts iron or ſteel, whereas electricity attracts moſt ſorts of bodies indifferently, though the effect be only ſenſible in light ones. From the ex-

* Some diſtinguiſh electricity into two kinds, namely, vitreous electricity, or that which belongs to glaſs; and reſinous electricity, or that which belongs to amber, roſin, wax, gums, and ſuch-like ſubſtances. That they are different kinds ſeems evident from their contrary effects; for the light bodies repelled by one will be attracted by the other, which cannot happen when both bodies have the ſame attractive power.

periments

periments made by divers philoſophers to determine the nature and laws of electricity, it appears, 1. That electrical bodies do not attract at all, or very rarely, except they be warmed by attrition, and thereby diſpoſed to emit their effluvia more copiouſly. 2. Theſe bodies when warmed by fire do not attract ſo forcibly as when heated by rubbing; but if they be firſt warmed by fire, and then rubbed, they attract the more ſtrongly. 3. The interpoſition of the fineſt linen, as muſlin, or the like, will totally hinder the operation of electrical bodies, tho' the virtue penetrates the pores of glaſs. 4. The ſphere or extent of this attracting power varies with the ſtate of the weather, the attraction being ſtronger in hot and dry weather than it is in cold and moiſt. 5. This virtue may be communicated to the diſtance of ſeven or eight hundred yards by the intervention of a proper body, as hempen ſtrings, &c. Electrical bodies ſometimes alternately attract and repel others to a conſiderable diſtance, and with great velocity; but in ſome caſes the body once repelled will not be again attracted till it has firſt touched ſome other body. 7. If the ſphere of attraction be interrupted in any part, it deſtroys the efficacy of the whole. 8. This virtue will exert itſelf in vacuo, but not ſo ſtrongly as in the open air. 9. It may be excited to ſuch a degree as to appear lucid, and ſparkle like fire in a dark room. 10. It may alſo plainly be felt on the face or finger, ſtriking againſt it like a puff of wind; and it is ſenſible to the ear by a crackling noiſe, like that of burning charcoal.—Theſe and ſeveral other wonderful phænomena of electricity have been diſcovered by the experiments of Mr. Boyle, Mr. Hawkſbee, Mr. Gray, the Abbé Nollet, and other virtuoſi, which have of late been

publickly ſhewn in divers parts of England with an Apparatus contrived for that purpoſe *.

WE have dwelt the longer on this ſubject, as it is one of the moſt curious in natural hiſtory and philoſophy, and the moſt entertaining we ſhall meet with in Poland. The vegetables of this country are too common to require a deſcription; nor ſhall we have much to ſay under the article of animals.

ANIMALS.

THE woods and foreſts of Poland abound with hares, deer, foxes, bears, wolves, and boars; and they have alſo plenty of elks, wild aſſes, wild bulls or Uri, and buffaloes, whoſe fleſh the Poles reckon a great dainty. In the Ukrain they have likewiſe wild horſes, whoſe fleſh is equally eſteemed. The wolf reſembling a hart, or the European lynx, called by the natives Ris, with ſpots on its belly and legs, yields the beſt furr of any animal in Poland, though there are ſeveral others which are hunted and killed for the ſake of their ſkins only. In Podolia there is a ſort of quails that have green legs; but their fleſh is reckoned unwholeſome, and ſaid to give people the cramp if too frequently or immoderately eaten.

THEIR method of hunting and taking the wild

* Mr. Martin obſerves, that the uſes of this wondrous virtue of electricity has not yet been diſcovered; but Mr. Gray, a little before his death, hit upon an experiment which ſeemed to indicate, that the attractive power which regulates the motions of the heavenly bodies, is of the electric kind. The experiment was this: He fixed a large iron ball upon a great cake of roſin and wax, and exciting the virtue ſtrongly in the cake, a fine feather ſuſpended by a thread, and held near the iron ball, was carried round it by the effluvia in a circular manner, and performed ſeveral revolutions. It moved from weſt to eaſt, as the planets do; and its motions, like theirs, was not quite circular, but a little eliptical.

bulls

bulls is as follows: A great number of horſemen ſurround the bull, one of whom rides up and throws a dart at him, upon which the enraged animal purſues his enemy, but being wounded by another behind, he faces about to purſue the latter; and thus by turns they ſo harraſs him, that being quite tired with defending himſelf againſt ſo many aſſailants, he falls down, and is eaſily taken. Another way of taking theſe beaſts is by felling a great many trees, and thereby incloſing them ſo that they cannot eaſily eſcape. When a bull is thus ſurrounded, each hunter having his proper poſt throws darts at him, and whilſt the bull runs towards one of them, another from behind gives him a mortal wound. If he chance to break through the incloſure, and any of the hunters are in danger, the man he runs at holds out a piece of red cloth, againſt which the beaſt having an antipathy, he immediately leaves that perſon, and makes towards another, who, being provided for him, commonly kills or diſables him.—Bears, and thoſe of the largeſt ſize, they frequently take alive with nets; in which one of them being entangled, the ſportſmen ride up to him, pin down his head and feet with great wooden forks, and bind him ſo faſt with ſtrong cords that he is not able to ſtir, but the knots are ſo contrived that with one pull they may be untied. Having thus ſecured the bear, they put him into a great wooden cheſt, where they keep him, and turn him looſe when they have a mind to have the diverſion of hunting.

We now proceed to give ſome account of the buildings of this country.

BUILDINGS.

MOST travellers inform us, that many of the churches and other public ſtructures in

Poland are very beautiful and magnificent, but in the deſcriptions of them they are not ſo particular as might be expected. In Warſaw, the capital of the kingdom, the principal church, dedicated to St. John the Baptiſt, is a noble fabric and richly adorned; beſides which there are ſeveral others worth obſervation. The palace in that city, where the kings of Poland uſually reſide, and the general dyet of the kingdom aſſembles, is a large ſquare pile of buildings, begun by Sigiſmund III. and enlarged and beautified by his ſucceſſors. The king has another palace in the ſuburbs, amidſt delightful groves and gardens; and not far from it there is a ſmall chapel erected in memory of a victory gained over the Muſcovites, in which there is a fine ſepulchral monument of Demetrius Suiſeius, great duke of Muſcovy, who being taken priſoner, died a captive in Poland.

In the city of Cracow there are ſeveral magnificent ſtructures, and particularly the caſtle, which is a mile in compaſs, wherein the king has a noble palace built of ſtone, having a ſquare court within it, and galleries running round the outſide ſupported by marble pillars. The royal apartments are adorned with fine paintings and ſtatues, and from the north gallery there is a charming proſpect over the neighbouring country. Within this caſtle ſtands the cathedral dedicated to St. Staniſlaus, a majeſtic ſtructure, wherein the kings of Poland are crowned and uſually interred, and where are preſerved the relicks of that ſaint, the ancient biſhop and patron of the nation; who being murdered in this church in the eleventh century by Boleſlaus the Bold, the king and nobles walk in proceſſion to his ſhrine the day before the coronation, to expiate the crime; and ſeveral kings have offered veſſels of gold and ſilver at his tomb.

tomb. Sigiſmund I. built a ſilver altar over it, with golden crucifixes; and to the prieſts who ſerve at it he gave many rich veſtments embroidered with jewels.

THE cathedral of Gneſna, formerly the metropolis of the kingdom, and now the ſee of an archbiſhop who is primate of all Poland, is a fine ancient fabric, and is remarkable for its gates of Corinthian braſs exquiſitely wrought, which, it is ſaid, belonged formerly to a Greek monaſtery in the Morea, and were brought from thence by king Boleſlaus the Second. In this church there is a vaſt treaſure of gold, ſilver, and curious enamelled veſſels, given to it by ſeveral kings and archbiſhops. The tomb of one of its prelates, viz. St. Adelbert, was caſed with ſilver by Sigiſmund the Third; and archbiſhop Firley added to its treaſure many coſtly veſſels and veſtments, particularly his own mitre, valued at two thouſand pounds ſterling.

THE city of Poſnania or Poſnan, which lies weſt from Gneſna, has alſo a ſtately cathedral, richly adorned, where they ſhew the tomb of duke Mieceſlaus, who introduced chriſtianity into Poland. It has likewiſe ſeveral other handſome churches, and a large town-houſe of excellent architecture; but no building of that kind in the kingdom is equal to the town-houſe of Thorn, which is reckoned one of the fineſt in Europe.

WE ſhall conclude with Dantzick, the capital of Poliſh Pruſſia, and a city of very great trade, which is adorned with many noble ſtructures, particularly St. Mary's church, which is remarkably grand and beautiful. It has ſeveral thouſand windows, forty-eight altars, and a font, made at Antwerp, which coſt about five thouſand pounds ſterling. The town-houſe is alſo magnificent, and has a lofty ſpire; but this and other fine buildings were

were much damaged by the bombs and red-hot balls of the Ruſſians, when they beſieged Dantzick under count Munich in 1734, in order to drive out king Staniſlaus and his adherents, who had taken ſhelter in that city.

Of the POLES.

THE Poles are generally pretty tall and luſty, have fair complexions, and light hair, which they cut ſhort, but though they ſhave their beards, they leave two large whiſkers. Their dreſs is pretty ſingular: they wear a veſt, which reaches to the middle of the leg; and over it a kind of gown, lined with furs, and girded with a ſaſh, though the ſleeves ſit as cloſe to their arms as a waiſtcoat. Their ſhirt nearly reſembles a woman's ſhift, it being without either a collar or wriſtbands; and they wear neither ſtock nor neckcloth. On their heads they wear a fur cap; as to their breeches, they are wide, and make but one piece with their ſtockings; and inſtead of ſhoes, they always wear Turkey leather boots, both at home and abroad, with thin ſoals, and deep iron heels, bent like a half-moon. They not only carry a ſabre or cutlaſs by their ſides, but alſo a pole-ax, and never put them off but when they go to bed. The ſabre hangs in a leather ſtrap, with their handkerchief, their knife in a ſheath, and a ſmall whetſtone ſet in ſilver. When they appear on horſeback, they wear over all a ſhort cloak, commonly covered with furs, both within and without. The peaſants uſually wear a ſheep's ſkin with the wool on for their winter dreſs; but in ſummer, a thick coarſe cloth, and inſtead of boots, have buſkins and ſhoes made of the bark of trees; but as to linnen they ſeldom wear any.

THE

THE habit of the women nearly reſembles that of the men; only thoſe of quality, dreſs after the French manner. The Poliſh ladies are amiable, ſprightly, and fond of plays and muſic; they are generally modeſt, and are ſaid to be ſo ſubmiſſive to their huſbands, as to aſk them on their knees for what they want. Thoſe who are very rich, ſeldom go to church, or to pay a viſit, without their coach and ſix, a great number of ſervants, particularly an old gentleman for their uſher, and an old gentlewoman for their governante, with a dwarf of both ſexes to bear up their train, and if it be at night, the coach is ſurrounded with a multitude of flambeaux.

THE Poles have long been celebrated for their courage, their ſtrength, and their longevity, which is juſtly aſcribed to the temperature of the climate, their enuring themſelves to manly exerciſes, and the continual uſe of the cold bath. The nobility are open, affable, liberal, and hoſpitable, polite to ſtrangers, rigid to their dependants, punctilious in point of honour, vain, and oſtentatious: they are conſtant in their friendſhip, bitter in their enmity, unſuſpicious, and open to impoſition. The nobility of high rank have even their horſe and foot guards, which ſtand centry day and night at the gates of their houſes, and in their anti-chambers; they alſo march before their maſter's coaches in the ſtreet. But theſe nobles never appear with ſuch ſplendor, as at the general diet, where ſome have four or five hundred, and others a thouſand guards to attend them. Indeed they want little to diſtinguiſh them from ſovereigns in their reſpective diſtricts, but the privilege of coining money. When they ſit down to dinner or ſupper, they have their trumpets and other muſic playing. Though the nobility of Poland are all ſaid to be equal, as having

having votes in the diet, yet wealth will ever create a diſtinction; and the nobles who are poor, are frequently obliged to ſerve thoſe that are rich. Their patron indeed, uſually treats them with civility, and permits the eldeſt to eat with him at his table, with his cap off; and every one of them is attended by a peaſant boy, maintained by the maſter of the family; yet if any of theſe noble ſervants neglects his duty, ſo little regard is paid to his quality, that he is ſtripped naked and whipped; this however is reckoned no diſgrace; but ſhould a nobleman apply himſelf to trade, he would be degraded. Their ordinary food is beef or veal, mutton being little eſteemed; they are generally admirers of pig and bacon, and have plenty of wild fowl and river fiſh. At an entertainment the Poles lay neither knives, forks, nor ſpoons, but every perſon brings them with them; and they no ſooner ſit down to table, than all the doors are ſhut, and not opened till the company return home. Thoſe who are invited, bring their ſervants with them; and it is ſaid not to be uncommon for a nobleman to give his ſervant part of his meat, which he eats as he ſtands behind him, and to let him drink out of the ſame cup with himſelf; but this is the leſs extraordinary, as theſe ſervants are eſteemed his equals. Though there is uſually great plenty of proviſions, little is left for the reſt of the family, it being ſeized by the ſervants of the viſitors, who have a napkin, in order to carry off the ſweatmeats for their ladies. After the cloth is taken away, the gentlemen uſually ſit down to drinking, and after the ladies are retired, ſmoke tobacco.

THE nobility of Poland enjoy many conſiderable privileges; and indeed the boaſted Poliſh liberty is enjoyed by them alone; for they have the power of

of life and death over their vaſſals, who on that account groan under an oppreſſive ſlavery. The houſe of a nobleman is a ſecure aſylum for criminals, and none muſt preſume to take them from thence by force. But if a nobleman be concerned in trade or commerce, he forfeits the privileges of a noble Pole.

No people can be reduced to a more abject ſtate than the peaſants of Poland; for if one lord kills the peaſant of another, he is only obliged to make a reparation by another peaſant equal in value. The peaſants have no property, and all their acquiſitions ſerve only to enrich the maſter. They are indiſpenſably obliged to cultivate the earth; they are incapable of entering upon any condition of life, that might procure them freedom, without the permiſſion of their lords; and are expoſed to the caprice, cruelty, and barbarity of their tyrannical maſters, who oppreſs them with impunity; and having the power of life and property in their hands, too often abuſe it, in the moſt groſs and wanton manner, their wives and daughters being frequently expoſed to the moſt brutal treatment.

THIS, ſays the author of a late ſyſtem of geography, is the boaſted liberty of the Poles, in which the multitude are reduced to the moſt abject ſlavery; and thoſe who enjoy eſtates, though ever ſo ſmall, are allowed the privilege of being tyrants; and have greater power over their vaſſals, than God ever gave to kings. Happily thoſe vaſſals ſcarce entertain any idea of better circumſtances: they regard their maſters as a ſuperior order of beings; and as they ſeldom want for proviſions, they think that a man can never be very wretched while he has any thing to eat. It is ſaid that a total want of ſentiment and mental enjoyments prevail through the whole order; as if Providence had

had wisely mixed the stupifying drop, to render more tolerable the nauseous draught of servitude.

THE political constitution of Poland is extremely singular, and bears no resemblance to that of any other government. The republic is composed of the king, the senate, and the nobility, the king being only a superior officer of the republic, with a very limited power.

CHAP. XI.

Of MUSCOVY, *or the* RUSSIAN *Empire.*

THIS vast empire, which is partly in Europe, and partly in Asia, is of an amazing extent, it being bounded on the north by the frozen ocean; on the east by what is generally called the northern part of the pacific ocean; and towards the west and south its limits are settled by treaties concluded with several far distant powers, with Sweden, the Poles, the Turks, the Persians, and the Chinese; by whose dominions this immense empire is bounded, and is of far greater extent than all the rest of Europe. Its length from the dominions of Sweden to its most eastern limits, contains near a hundred and seventy degrees; so that when it is noon-day in the west, it is near mid-night in the eastern part of this empire. In breadth it stretches from north to south eight hundred leagues. Hence both the soil and temperature of the air must be extremely various in different parts. In those which lie beyond the sixtieth degree of latitude, there are few places where corn will ripen; but in the middle of the empire, the soil produces most kind

kind of trees, and garden fruits, corn, and all the neceſſaries of life; and in the ſouthern provinces, where the climate is hot, though there are many barren waſtes, yet in many places, wine and ſilk might be produced in great plenty.

THIS immenſe empire is divided into Ruſſia or Muſcovy and Siberia, the former in Europe, and the latter in Aſia, but both united; and both alſo thinly peopled. We ſhall begin with Ruſſia. The boundaries of this part of the empire, are the ſame with the limits between Europe and Aſia, it extending on the eaſt to the Wercoturian mountains, and to part of the Wolga, which ſeparate it from Siberia; on the ſouth it is bounded by the river Don, and a line drawn from the Nieper to the mouth of the Don, at its entrance into the ſea of Eſoph; on the weſt by the Nieper, which ſeparates it from Poland, the gulph of Riga, the gulph of Finland, Sweden, and Swediſh Lapland; and on the north by the frozen ocean. Its principal river is the Wolga, which is one of the largeſt in the world, it running a courſe of above two thouſand miles before it falls into the Caſpian ſea. The largeſt lake in this part of the Ruſſian empire is that of Ladoga, being a hundred and fifty miles in length, and ninety in breadth.

SIBERIA, which lies to the eaſt of Ruſſia, is above two thouſand miles in length, from eaſt to weſt, and about ſeven hundred and fifty miles in breadth, from north to ſouth; but is in moſt parts extremely cold and barren, and every where thinly peopled. The face of this country, eſpecially towards the north, is as diſagreeable as can be imagined, it being covered with large, and almoſt inpenetrable woods, with high and frozen mountains, covered with everlaſting ſnow, and with fens, lakes, and marſhes. The climate is, however, more moderate

moderate in the ſouthern part, and where the lands do not riſe a conſiderable height above the level of the ſea. Siberia has many animals unknown in Europe; and many different nations, that have different manners, cuſtoms, languages, and religions. It is chiefly inhabited by people of Tartarian race, intermixed with ſome colonies of Ruſſians, and the deſcendants of ſuch ſtate priſoners, and others, as have been baniſhed thither. But what is very extraordinary, more perfect accounts have been given of Kamtſchatka, a great Peninſula, which forms its boundary on the north-eaſt, than of thoſe countries that are ſeated in the very heart of Siberia.

FOSSILS.

SEVERAL parts of this great empire are well furniſhed with mines of iron, and particularly at Alonitz, near the lake Ladoga, they dig vaſt quantities of ore, which yields iron of ſuch a temper, that it may be brought (they ſay) to be as durable as braſs. The mines of Siberia likewiſe afford great plenty of excellent iron; and ſome mines of ſilver have lately been diſcovered in that country, from whence the Ruſſians draw no inconſiderable treaſure. They have alſo abundance of ſulphur and ſalt-petre, with which they make their own gun-powder, and in time may probably export large quantities of it, having much more than ſufficient for their own uſe: and perhaps they may ſhortly be in a capacity to furniſh foreigners with fire-arms, as labour is cheap, and they have plenty of iron.

WE have already had occaſion to take ſome notice of a ſpecies of Talc, the Lapis Specularis of the ancients, commonly known amongſt us by the name of Muſcovy-Glaſs, it being brought to us from

from that country, where it is found in great abundance*. It is a beautiful Foſſil, of an equal, regular, and elegantly laminated ſtructure; and is uſually found in maſſes, ten or twelve inches in breadth, and from half an inch to three inches in thickneſs. Theſe are of a ſmooth and even ſurface, except at their edges, where the joinings of the various and innumerable plates or flakes of which it is compoſed, make a multitude of thin ridges; which being ſeparated by getting the edge of a knife between them, or other means, the maſs readily ſplits, with proper care, into very thin laminæ, of an extraordinary brightneſs and tranſparency. Its colour is of a fine clear white, reſembling that of the pureſt white glaſs; but there is another ſtill more elegant ſpecies of this Foſſil called Red Talc, found in Muſcovy and Perſia, and no where elſe ſo far as is yet known, which, though reddiſh in the maſſes, is ſeldom brought to us except in ſuch thin plates as to have no remains of its colour diſtinguiſhable. The ancients (as we have obſerved) made windows of this pellucid ſtone, and at preſent it is uſed by the miniature painters to cover their pictures, the beſt ſort of lanthorns are made of it inſtead of horn, and minute objects are uſually laid between two plates of it for examination by the microſcope.

THE large teeth and bones dug up in Siberia, (commonly called Mammuth's bones) are one of the greateſt curioſities of this country, and have employed the thoughts and pens of Sir Hans

* This Foſſil is found in many parts of the world beſides Ruſſia, particularly in the iſland of Cyprus, where it lies in great quantities about four or five feet under the ſurface, almoſt throughout the whole iſland. We have it alſo from Africa and Arabia, and of late it has been diſcovered to abound in the Alps, the Apennines, and many of the mountains of Germany.

Sloane,

Sloane, Dr. Breynius, and other learned men, who make no doubt of their being the teeth and bones of elephants; and in reality these teeth or tusks, if not too much corrupted by lying in the ground, are sold and used as ivory all over Russia. In the British Museum is a tusk found under ground in Siberia, which is of a brownish colour, and hollow at the bottom like other elephants teeth, one of which it plainly appears to be. From the basis, measuring along the outer circumference to the small end, it is five feet seven inches long, and the inner circumference is four feet ten inches. Measuring from the inside of the basis, to the small end in a strait line, the distance is three feet ten inches and a half; and at the basis, where thickest, it is eighteen inches round, and six in diameter. This tusk weighs forty-two pounds; but we have credible accounts of some that have been three or four times that weight, and even of some Dentes molares, or grinders, weighing twenty or twenty-four pounds a-piece*.

LUDOLPHUS, in the appendix to his Russian grammar, mentions these teeth and bones among the minerals of Russia; and takes notice, that the natives believe them to be the teeth and bones of an animal living under ground, much larger than any that live upon the surface of the earth. He adds, however, that the more sensible among the Russians affirm them to be elephants teeth, brought thither at the time of the deluge; and he himself, upon examining a piece given him by one of his

* Here it is to be noted, that such teeth and bones, as we are speaking of, are likewise found in several other countries besides Siberia, as Poland, Germany, Italy, England, Ireland, &c. but less commonly than in Siberia, and not so well preserved, being more wasted and calcined (as is supposed) by the greater warmth of those climates.

friends,

friends, who had it from a Ruſſian of quality lately returned from Siberia, found it to be real ivory.

THE account of theſe teeth given us by Mr. Yſbrand Ides, in his travels from Moſcow to China, is very particular, the ſubſtance of which is as follows. Amongſt the hills (ſays he) which are ſituated to the north-eaſt of Makofſkoi, the Mammuth's teeth and legs are found, and more eſpecially on the banks of the Jeniſcea, Lena, and other rivers, quite to the frozen ſea. In the ſpring, when the ice of theſe rivers breaks, it is driven with ſuch violence, as to undermine the banks, and occaſion part of the adjacent hills to fall down; and thus they diſcover the teeth of theſe animals. A perſon, who uſed to go annually in ſearch of theſe bones, accompanied our author to China, and told him for a certain truth, that he and his companions found the head of one of theſe creatures where ſuch a piece of earth had fallen down, and that with difficulty they broke out the teeth, which grew out of the mouth like thoſe of an elephant. They likewiſe took ſome bones of the head, which appeared reddiſh, as if ſtained with blood; and afterwards found the fore foot of the animal, the circumference of which was as large as the waiſt of an ordinary man.—There are different reports, (continues Mr. Ides) concerning this creature. The Tunguſians, Oſtiacks, and other heathens ſay, that the Mammuth lives continually under ground, and that they often ſee the earth heaved up when the beaſt is upon the march, which afterwards ſinks down again, and makes a deep pit or cavity. They alſo believe, that if he comes ſo near the ſurface of the earth as to ſmell or diſcern the air, he immediately dies; which, (ſay they) is the reaſon that ſeveral of them are found dead on the high banks of the rivers, where they

they come out of the ground unawares. This is the opinion of the Pagans concerning the Mammuth; but the old Ruſſians of Siberia believe, that there were elephants in that country before the deluge, when the climate was warmer, and that their drowned bodies were driven by the waters into ſubterraneous cavities, where they have ever ſince lain frozen, and ſo preſerved from putrefaction. But there is no abſolute neceſſity to ſuppoſe the climate of Siberia was warmer before the flood, ſince the carcaſſes of drowned elephants might float thither from diſtant countries.—Some of theſe teeth are quite black and broken, but thoſe which are found are as good as ivory, and are accordingly ſent to all parts of Muſcovy.

THIS account is confirmed by Mr. Laurence Lang, in the journal of his travels to China, whither he went in 1715 with diſpatches from his Czariſh majeſty. He takes notice of theſe bones, as being found about the river Jeniſcea, and towards Mangaſea, along the banks, and in the pits occaſioned by the ſinking of the earth. He calls them Maman bones, and informs us, that ſome of the inhabitants are of opinion they are no real bones, but a ſort of foſſil horn which the ground produces; and that others will have them to be the bones of the Behemoth mentioned in the book of Job, the deſcription whereof they pretend is ſuitable to the nature of the Maman; thoſe words in particular, that he is caught with his own eyes, (as ſome render the paſſage) agreeing with the Siberian tradition, that the beaſt dies upon coming to light.

TO theſe accounts we ſhall only add another given by Baſilius Tatiſchow, director general of the mines in Siberia, in a letter to the biſhop of Gotten-

Gottenburg*; wherein he mentions a large horn, (as he calls it) or tooth, weighing 183 pounds, which he had made a preſent of to his Czariſh majeſty, and another which he preſented to the imperial academy at Peterſburg. He had likewiſe another, larger than either of the former, which he cauſed to be cut, and he himſelf wrought ſeveral pieces of it, the ivory being very good. Part of the ſkull was corrupted by having lain in the ground, and was ſo large, that it ſeemed to him to be of the ſame ſize with that of a large elephant. He had alſo in his poſſeſſion a grinder ten inches long and ſix inches broad, beſides ſeveral ribs, ſhank-bones, &c. found from time to time in that country. The ſame gentleman took no ſmall pains to enquire into thoſe pits and hollows, which the Pagan inhabitants of Siberia pretend are made by theſe animals when they walk under ground; and he found they were nothing but caverns, ſuch as are common in other mountainous countries, and are made by ſubterraneous rivers and cataracts, which ſometimes undermine the places through which they paſs, ſo as to make the ground above them ſink in, and form great cavities.—Upon the whole Sir Hans Sloane concludes, that though the author has left the grand queſtion about the origin of theſe bones undetermined, yet his obſervations ſeem to tend very much towards eſtabliſhing the opinion above mentioned, that they are the bones and tuſks of elephants drowned in the univerſal deluge.

VEGETABLES.

THE moſt remarkable production of this kind, in the Ruſſian empire (if the accounts we

* This letter was publiſhed in the Act. Liter. Sueciæ, 1725.

have is true) is a ſort of Melon growing near Aſtracan, Caſan, Samara, and other places on the river Wolga, called Borometz by the natives, and by Naturaliſts the Scythian or Tartarian Lamb, as very much reſembling that animal. This is reckoned a Zoophyte, or Animal-Plant, being ſuppoſed to partake both of a ſenſitive and vegetable nature. It is ſhaped like a lamb, having ſeveral footſtalks inſtead of legs, and is ſaid to conſume all the graſs and herbs round about it, after which it pines and dies away. The ſkin of the body is covered with a ſubſtance exactly like wool, ſhort and curling, and being dreſſed as tanners uſually do the fleſhy ſide of lamb-ſkins, without taking off the wool, it is uſed by people of faſhion inſtead of other furs to line their garments. Scaliger mentions another particular concerning it, that no beaſt of prey will feed upon it except the wolf, and that it is uſed as a bait to catch that animal.

OLEARIUS tells us, he was ſhewn a piece of this ſkin, covered with a ſoft curled wool like that of a young lamb, which the people ſwore was taken from the vegetable we have juſt deſcribed; but he could hardly believe them. Nor is Olearius the only one who has queſtioned the truth of this ſtory; for Deuſingius, who very carefully examined the matter, ſuſpects the whole to be fabulous; and Dr. Breynius is of the ſame opinion. Nay farther, that learned Naturaliſt, Dr. Kempfer, though he diligently enquired for this vegetable lamb in the country where it is ſuppoſed to grow, found nothing like it; for neither the common people in Tartary, nor thoſe who were ſkilled in botany, knew any thing of ſuch a plant; nor is there any thing in that country called Borometz except real ſheep; and therefore

he

he positively asserts, that whatever is said about this vegetable is mere fiction. The Doctor seems also to have discovered the origin of the fiction; for he observes, that in some provinces about the Caspian sea, there is a kind of sheep different in several respects from the common sort, particularly in the fineness of their furs, which he describes, and shews how they are prepared for adorning the cloaths of the Tartars and Persians. Now the rich and noble, (says the Doctor) who are ambitious of being cloathed finer than the common sort of people, are fond of the furs of young lambs, which are much more tender than those of the old sheep, and the younger they are, the dearer; for their wool will bear a fine and close curl, which makes the fur more beautiful and valuable. Hence it comes, that they often rip up the dam and take out the Fœtus, only for the sake of the fur, which when duly prepared is of so delicate a grain, that after cutting off the extremities it scarce resembles a lamb-skin, and might easily deceive the ignorant, who would be apt to take it for the downy skin of a gourd. With this they line their turbans, and frequently use it by way of ornament on the borders of their garments. And hence the Doctor imagines the story of the Tartarian Lamb had its rise, the fur of the animal being transformed into a plant, either through the ignorance or misapprehension of those who first gave an account of it, or the false conjecture of some philosopher.—Be this as it will, we shall leave the subject, and proceed to matters that are not disputed.

THE following vegetables grow chiefly in Kamptschatka: the Shelmina, which has a blackish root, white within, from which rise two or three stalks, of about the height of a man; the

leaves grow on long branches all over the ſtalk, having their upper part green and ſmooth, but underneath they are rough, and have reddiſh veins. At the top of the plant is a flower, which is like that of the ſervice tree: but though the root, ſtalk, and leaves are very aſtringent, both the Ruſſians and Kamptſchadales eat them in the ſpring, and preſerve the roots for the winter, when they pound and boil them with water, ſo as to make a kind of gruel, the root reſembling in taſte the Piſtacho nut.

THE Cotconia grows in great plenty on the banks of the rivers, and has a root of the thickneſs of ones finger, black on the outſide, and white within, from which two or more ſtalks riſe, of the thickneſs of a gooſe quill, and about ten inches high. On the top, three oval leaves ſpread like a ſtar, from the center of which riſes a ſhort ſtalk, which ſupports a white flower. The fruit, when ripe, is ſoft, fleſhy, as big as a walnut, and of an agreeable taſte, like a good apple: but it muſt be eaten as ſoon as gathered, for it ſpoils if kept only one night. The root is eaten by the Kamptſchadales, both freſh and dried, with caviare.

ANOTHER remarkable plant has leaves like the hemp, but the flowers reſemble thoſe of the ragwort. The leaves being dried, and boiled with fiſh, give the broth the ſame taſte, as if the fleſh of the wild goat had been boiled in it: they fry the root in the fat of ſeals, and eſteem it very delicate food.

WE ought not to omit the Zgate, which contains a poiſon of prodigious ſtrength; for with the juice ſqueezed from the root, they anoint the points of their darts and arrows, which renders the wounds they give incurable, unleſs the poiſon

be

be immediately ſucked out: for if this be neglected, the wound turns blue and ſwells, and the patient dies within two days. Whales of the largeſt ſize, on being ſlightly wounded with a poiſonous weapon, are unable to bear the ſea; but ſoon throw themſelves on ſhore, where they expire in great agonies, bellowing moſt terribly.

ANIMALS.

THE Ruſſian empire, and particularly Siberia, abounds with variety of animals, ſuch as foxes, ſables, ermines, lynxes, beavers, &c. whoſe furs are in great requeſt, and make a conſiderable article in their commerce. The Beaver, or Caſtor, is an amphibious animal, about three foot long, and twelve or fifteen inches broad in the cheſt and haunches. In the northern regions, the beavers are uſually black or brown, but their colour is lighter in more temperate climates. Their ears are ſmall, their teeth ſtrong and ſharp, and they have a long ſcaly tail, which is flat like the blade of an oar, and ſerves them as a rudder to ſteer by, eſpecially when they ſwim under water. Their fore feet reſemble thoſe of apes or ſquirrels, which they uſe, like thoſe creatures, as hands when they eat; but their hind feet are adapted for ſwimming, having membranes between the toes, like ducks and other water-fowl. The ſkin of the beaver is covered with two ſorts of hair, the one long, the other a ſoft down, very fine and compact. An attempt was made at Paris in the laſt century, to manufacture this down, mixed with wool, into cloths, flannels, ſtockings, &c. but the project did not anſwer expectation, it being found by experience that the ſtuffs loſt their dye when wet, and when dry again became harſh

and ſtiff as felts; ſo that the beaver is now chiefly uſed in making hats, or as a fur for warmth or ornament.

THE beaver has near its anus two bags or purſes, containing a liquid matter called Caſtoreum, of conſiderable uſe in medicine. Theſe bags are about the bigneſs of a gooſe-egg, and have been falſly taken for the teſticles of the animal; but they are found indifferently in males and females. The matter incloſed in theſe bags is oily*, of a ſharp bitter taſte, and ſtrong diſagreeable ſmell; but when taken from the animal, it dries and condenſes, and becomes of the conſiſtence of wax by hanging it in a chimney. The Ruſſians cure their Caſtoreum in the following manner: they boil a few wood-aſhes in a proper quantity of water, tie the bags in couples, and put them in the boiling water for half a quarter of an hour. This done, they lay the bark of the birch tree on the fire, and ſmoke the bags over it for about an hour; and then letting them hang for a week or longer, till they are perfectly dry and

* It is certain that ducks, geeſe, and all ſorts of water-fowl, have a gland in their rump, from which they expreſs with their bill an oily matter, wherewith they anoint their feathers, to prevent their being too much affected by the water: and the glands of that large Duck, commonly called the Muſcovy Duck, or rather Muſk Duck, afford an oil as fragrant as civet. It is therefore probable, that as the beaver is an animal which frequents the water, the Caſtoreum is a ſubſtance provided by nature to greaſe and anoint his fur with, to prevent the water from ſoaking quite to his ſkin. And this ſeems to be confirmed by an obſervation, that the beaver frequently ſtops when he is hunted, and juſt going into the water, putting his mouth towards the anus, in order to ſqueeze out the oily liquor contained in his bags, to anoint his fur and preſerve it from injury. Hence poſſibly the ſtory had its riſe, that this animal, ſenſible the hunters purſue him for the ſake of his teſticles, ſometimes ſtops and bites them off, and leaves them to his purſuers, in order to ſave his life.

hard,

hard, they pack them up for uſe or exportation. As to the virtues of Caſtoreum, it diſcuſſes flatulences, corroborates the head and nervous ſyſtem, rallies the languiſhing ſpirits, reſiſts poiſons, cauſes ſneezing, and provokes the Menſes. Hence it is of uſe in a lethargy, apoplexy, epilepſy, vertigo, palſy, tremblings, hyſterics, and cholic pains; and as it conſiſts of very minute and penetrating parts, and is poſſeſſed of a certain acrimony, it ſeems proper to rouze and excite a languid circulation. It is alſo ſaid to cure a ringing in the ears, difficulty of hearing, and pains in the teeth, and to correct the virulence of opium.

SIR Hans Sloane kept a young female beaver three months in his garden, till at laſt ſhe was killed by a dog. She was about half grown, not exceeding twenty-two inches in length, from the noſe to the root of the tail, which was eight inches long. She was very thick, and paunch-bellied; and the ſhape of the head, and indeed of the whole animal, except the hind feet and tail, much reſembled that of a great over-grown rat. They fed her with bread and water, and gave her ſome willow-boughs, of which ſhe eat but little; but being turned looſe in the garden, ſhe ſeemed to like the vines, having gnawed ſeveral of them as high as ſhe could reach, quite down to the roots: ſhe likewiſe gnawed the jeſſamine, and ſome holly trees, but theſe leaſt of all. Being put into a fountain with ſome live flounders, ſhe never offered to ſtrike at them, as an otter would have done; ſo that fiſh does not ſeem to be the natural food of theſe creatures, but herbs, fruits, and branches of trees. In ſwimming ſhe made uſe of her hind feet only, holding her fore feet cloſe up under her throat, and never moving them till ſhe came to the ſide, and endeavoured to get out of

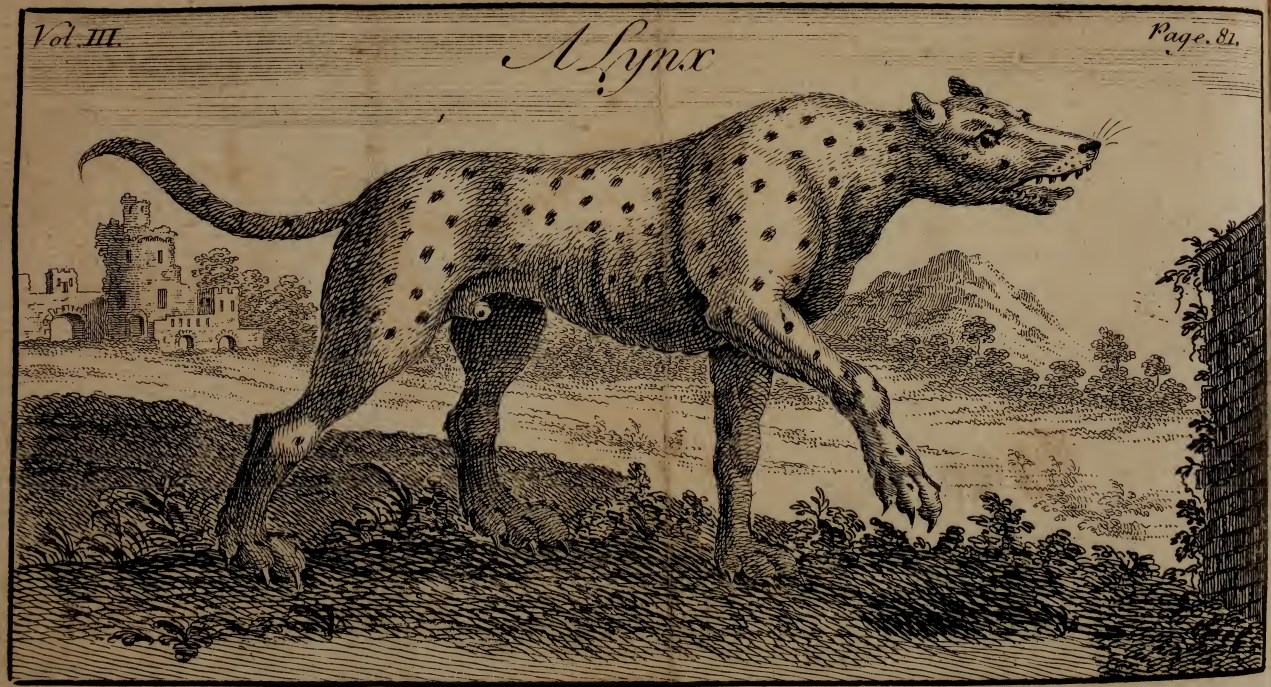
the water. She ſwam under water as ſwift as a carp, and would now and then come up to breathe, thruſting her noſtrils juſt above the ſurface. Her hind legs being longer than her fore legs, ſhe walked but ſlowly, or rather waddled like a duck; and if drove faſt along, ſhe could not run, but went by leaps or jumps, flapping her tail againſt the ground.—As to the wonderful polity obſerved amongſt the beavers, their gnawing down great trees, their manner of building their habitations, and other particulars of that kind, we ſhall take notice of them when we come to Canada, which country abounds with thoſe animals more than any other part of the world.

AMONGST the furs of Siberia, that of the Ermine is in great eſteem for its whiteneſs and luſtre. This creature is a ſort of pole-cat or weaſel, and has ſometimes been confounded with the ſquirrel, and even with the ſable, though they are three different animals. In order to heighten the charming white of the ermine, the furriers uſually ſew here and there little black tufts, which are bits of the ſkin of a lamb of a very ſhining black, though ſome ſay they are pieces of the ermine's tail.

THE Sable is a ſort of weaſel found in ſeveral countries, but thoſe of Siberia are the moſt eſteemed. The blackeſt bear the higheſt price, and therefore the Ruſſians have found out a way of dying the brown ſable to the colour of that which is naturally of a moſt beautiful black: but lemon-juice will diſcharge this artificial colour, and lay the cheat open.

THE Black Fox is as well known in Siberia as the ſable, nor is it common any where but in ſuch cold countries, ſo that to ſuppoſe all animals have white hair in the northern climates, is a vulgar error.

A Lynx



error. Some of them indeed are found perfectly white, which would naturally be of another colour in warmer countries; and some that are brown in summer, as hares for instance, turn grey or white in winter, and the next summer resume their former colour: but there are many which are not subject to such changes.

We have another sort of fur from Siberia, which is the skin of a squirrel found there and in other northern countries. These creatures are brown in summer, but grey in winter, at which time they are killed, and afford two different sorts of furs, the back being grey, and the belly as white as ermine. It is bordered on each side with a black streak, which is carefully preserved. When the fur is varied alternately with the skin of the back and belly, it is much the richer.

To these animals we ought to add a sort of mountain-cat, bigger than a fox, which for its sparkling eye is looked upon by several naturalists to be the Lynx of the antients. This creature is found in other parts of Europe as well as in Muscovy, and its spotted skin is one of the most beautiful in the world, though it does not seem to be so much esteemed as it deserves.

There is a species of rats at Kamptschatka, which nearly resemble the Lemming already described in treating of Norway; but these live in the woods, fields, and high mountains, in a kind of community, having very neat nests, which are large, and divided into different apartments spread with grass; in some of which they store up roots of several kinds, which they gather with great labour in summer, and lay up against winter; dragging them out in sunshiny weather, in order to dry them. All the summer they live upon berries, and such other food as they can find, never touch-

ing their winter provisions while any is to be procured in the fields. These, like the Lemming, change their habitations, and sometimes they all leave Kamptschatka, which the Kamptschadales imagine, forbodes a rainy season, and a bad year for hunting; but when they return, they expect a fine one, and a good year for the chace; and therefore expresses are sent to all parts with the agreeable news. When they depart, it is always in the spring, first assembling in great numbers. They steer their course due west, crossing rivers, lakes, and even arms of the sea; and when they reach the shore, spent with fatigue, they lie as if dead upon the banks, till recovering their strength, they again pursue their march. They have nothing to fear on the land, their greatest danger is least some ravenous fish should devour them; for the Kamptschadales, on finding them weak on the banks, give the many assistance in their power. From the river Pengin they march southward; and about the middle of July, usually reach Ochotska and Judoma. Their troop is sometimes so numerous, that travellers are obliged to wait two hours for their passing by. They usually return to Kamptschatka about the month of October. 'Tis extremely surprizing, that such animals are able to pass over such an immense tract of land. And nothing can be more admirable than the regularity and order they observe in their march.

AMONG the amphibious animals of Kamptschatka are many different kinds, the Maneti, or sea-cow here, never comes on shore, but constantly lives in the water. It resembles the cow only in its snout, and has neither horns, strait ears, nor legs. It is an animal like a seal, only vastly larger, it being about twenty eight feet long, and some of them are eight thousand pounds weight. Its skin

is

is black and thick, like the bark of an aged oak; and so hard and tough, that it can scarcely be cut with an ax. Its head is small in proportion to its body, and its snout white and rough, with white whiskers about nine inches long. Instead of teeth, it has two flat white bones, one above, and the other below. Its eyes are black, and no larger than those of a sheep, which is remarkable in a creature of so monstrous a size, and its ears are only small openings; its neck can scarcely be discovered, but there are some vertebræ, which enable it to turn its head, and to hang it down in feeding like a cow. The body is round like that of a seal; the female has two teats on her breast; the tail is thick, with some resemblance to the fins of a fish. It has too fins under its neck, about twenty one inches long, these it uses like hands; and not only swims with them, but takes hold of the rocks with such force, that on its being dragged from thence with hooks, it will leave the skin behind.

THESE animals in calm weather, swim in droves near the mouths of the rivers: they bring forth in harvest, and never have more than one at a time. They are almost continually eating sea-weeds, and have their backs and sides above water; upon which flocks of crows settle, to pick off the vermin they find there. Any one may go among them in boats, and take which he pleases. They are caught with great iron hooks, somewhat resembling the fluke of a small anchor. A man in a boat, with three or four rowers, coming among the herd, strikes the hook into one of them; and then about thirty men on the shore, who hold one end of the rope that is fastened to the hook, draw the Manetoe towards the land, while those in the boat stab and cut the animal till it dies. When

one of them ſtruggles to clear himſelf of the hook, thoſe of the herd that are neareſt, come to his aſſiſtance; ſome frequently overſet the boat by getting under it, and others ſtrive to remove the hook, by ſtriking it with their tails, which ſometimes ſucceeds. The male and female have ſuch an affection for each other, that when one of them has in vain uſed every method in its power to give aſſiſtance, it follows the body after it is killed to the very ſhore, where it ſometimes remains two or three days. Their fleſh when thoroughly boiled, has a good taſte, and reſembles that of beef; the fat of the young eats like that of pork, and the lean like veal.

THE number of ſeals in the ſeas and lakes of Kamptſchatka is ſo great, that all the iſlands and ſandbanks are covered with them. There are here four ſorts of thoſe animals, one ſpecies of which is of the ſize of a yearling bullock, has a ſkin ſomewhat like that of a tyger, its back having ſpots of an equal ſize, and its belly being yellowiſh and white.

IN ſpring and ſeptember are caught the ſea-cats, thus called at Kamptſchatka, from the long hairs ſtanding out on both ſides of the mouth, like thoſe of cats. But Dampier, who ſaw them in the ſouth-ſea, has termed them ſea-bears. The largeſt weigh about eight thouſand weight. Moſt of the females taken in ſpring are pregnant; and thoſe that are near the time of bringing forth their young, are immediately opened, and the young ones killed. They breed on the neighbouring coaſt of America, which has been found by the Ruſſians to extend from eaſt to weſt, almoſt to Kamptſchatka; there they nurſe their young three months, and return with them at the end of ſummer. The females give ſuck with two teats placed

placed between their hinder legs; but they have seldom more than one at a time. The young see when they are whelped, their eyes are as large as those of an ox; and they have thirty-two teeth, besides two tusks on each side, which begin to appear the fourth day after their birth. They are at first of a dark blue; but grey hair begins to appear in four or five days; and in a month's time, their belly is black and grey. The male is larger and blacker than the female; and they are so different in their form and strength, that they seem different animals: besides the former are fierce, and the latter mild and fearful. The male has from eight to fifty females, of whom he is so jealous, that he will allow none to come near them; and though many thousands lie on the shore, every family lives apart; the male with his females, young ones, and those of a year old, that have not attached themselves to any male; so that the family sometimes consists of a hundred and twenty. Those that are old, or have no mistress, live by themselves; and some lie asleep a whole month, without nourishment.

THEY attack all that pass by, for on seeing a man approach, some rush upon him, while others lie ready to support them. They bite the stones that are thrown at them, and rush with redoubled violence on him that throws them: even if you strike out their teeth with stones, or put out their eyes, they will not fly; and indeed they dare not; for could they save themselves from man, their own brethern would destroy them; for if any one seems to be driven back ever so little, others approach to prevent his running; and if he appears to design it, fall upon him. Sometimes they are seen fighting for a mile together, and then one may pass them without danger. If two fall upon one,

one, others advance to ſupport the weakeſt; for they will not allow of an unequal combat. While theſe battles laſt, thoſe that are ſwimming in the ſea, raiſe their heads, and look at the combatants; and at length come aſhore, and encreaſe their number. When only two of them fight, the battle frequently laſts an hour; ſometimes they reſt, lying by each other, then both riſe at once, and renew the engagement. When fighting, they hold up their heads, and turn aſide to eſcape a blow; for while their ſtrength is equal, they fight only with their fore paws; but one of them no ſooner becomes weak, than the other ſeizing him with his teeth, throws him on the ground; and then the lookers on come to the aſſiſtance of the vanquiſhed. Their moſt bloody battles are when one endeavours to carry off the miſtreſs or young females of another. They alſo quarrel when one comes too near them. Though the male is fond of his young, both they and the large females fear him extremely. If a man endeavours to take a young one, the male attacks him, while the female endeavours to eſcape with it; but if ſhe drops it out of her mouth, the male leaves his enemy, and ſeizing upon her with his teeth, beats her againſt the ſtones, till ſhe lies down as if dead; but ſhe no ſooner recovers, than ſhe is ſaid to crawl to his feet, which ſhe licks and waſhes with her tears that flow in abundance; while the male ſtalking about, gnaſhes his teeth, and toſſes his head. They ſwim exceeding faſt, and when they happen to be wounded at ſea, they ſeize the boats of the fiſhermen with their teeth, and drag them along ſo ſwiftly, that they ſeem to fly rather than ſwim upon the water; by which means the boat is frequently overſet, and the people drowned.

HERE are alſo ſea-beavers, which reſemble the others only in their downy hair; they are as large as the ſea-cats; their head is like that of a bear; and in their ſhape, they reſemble the ſeal: their teeth are ſmall; their fore feet are longer than thoſe behind; their tail is flat, ſhort, and ſharp towards the point; and their hair thick and black; but that of the old ones is grey. This animal is ſo peaceable, that it never makes any reſiſtance, and always endeavours to eſcape by flight. It is remarkable, that the females carry thoſe of their young that cannot ſwim, upon their belly, holding them with their fore feet, and ſwimming on their back. When purſued by the fiſhermen, they never quit their young till the laſt extremity; and ſhould they happen to ſlip out of their paws, they inſtantly return to take them up again; whence the fiſhermen endeavour to kill or catch the young, as the moſt effectual method of taking their dams*.

OF all the fiſh that are found in the ſeas and rivers of the Ruſſian empire, which afford great plenty and variety, the Sturgeon ſeems to be the moſt worthy our notice, on account of the vaſt traffick it occaſions†. The ſturgeon is a large ſea-fiſh, which at its ſeaſon ſwim up the rivers, having a ſharp pointed ſnout, flat belly, and bluiſh back. They are of various ſizes, ſometimes fourteen or even twenty feet in length; but thoſe of a middle ſize are reckoned the beſt. When freſh, they are delicious food; and to keep them they are ſalted or pickled in large pieces, and put up in cags,

* See the hiſtory of Kamptſchatka, publiſhed in the Ruſſian language, by order of her imperial majeſty, and tranſlated into Engliſh, by James Grieve, M. D.

† Sturgeons, with us, are reckoned among the number of royal fiſhes, as belonging to the king when left on ſhore, but when taken out at ſea are the property of the perſon who takes them.

from

from twenty-five to fifty pounds.—The greateſt ſturgeon fiſhery in the world is at the mouth of the Wolga, which falls into the Caſpian ſea, where a multitude of hands are employed. The fiſh are not taken with nets, but in a kind of incloſure formed with huge ſtakes diſpoſed in triangles, repreſenting the letter Z ſeveral times repeated; which being open on the ſide towards the ſea, and cloſe on the other, the fiſh, aſcending in the ſeaſon up the river, embarraſs themſelves in theſe narrow angular retreats, and not being able to turn themſelves back again by reaſon of their bulk, are eaſily ſtruck and killed with a ſort of harpoon or javelin. It is only the leſſer and younger ſturgeons that are pickled for eating; but the great object of this fiſhery is the roe or ſpawn of the fiſh, a commodity as much uſed in Moſcovy as butter in Holland. The roes are cured by ſalting and drying them in the ſun or by the fire, and thus prepared it is called Cavear or Cavea, and is ſent up the Wolga to Moſcow, from whence it is diſtributed into all parts of the empire, where it is of great ſervice to the people, on acount of the ſeveral Lents they obſerve with the utmoſt ſtrictneſs. The Engliſh import conſiderable quantities of cavear from Ruſſia, but not ſo much for home conſumption (though it has lately been introduced to our tables) as to ſupply the French and Italians. If good, it is of a reddiſh brown colour, and very dry. Some eat it with oil and lemon, others with vinegar; ſometimes it is eaten alone with bread, and ſometimes only as a ſauce or pickle, like anchovies.

ON the coaſt of Kamptſchatka are an inconceivable quantity of fiſh, particularly a large kind of ſalmon, cod, ſkate, redfiſh, turbot, herring, lampreys, and many others, which come from the

ſea

sea in such numbers, that they frequently stop the course of the rivers, and cause them to overflow their banks; and when the waters retire, a surprizing quantity of dead fish remain on the shore, which cause an intolerable stench.

BUILDINGS, &c.

IN a country so rude and unpolished as Moscovy has been till of late, one cannot expect to find many instances of beautiful or elegant architecture, and yet there are some structures to be met with which are not undeservedly admired. The stately church in the city of Moscow, called the Jerusalem, is said to be such an extraordinary pile of building, that the Czar John Basilides the First, in whose reign it was erected, ordered the eyes of the architect to be put out, that he might never contrive or behold its equal. There are several other magnificent churches in the same city, particularly that of St. Michael, which stands within the walls of the castle, and is adorned with the tombs of the Czars or great dukes of Moscovy. On the right side of the altar is the Czar's throne, and on the left that of the Patriarch; and in the body of the church hangs a chandelier of immense weight and value. The very jewels and other ornaments that enrich a picture of the virgin Mary are valued at half a ton weight of gold; besides a vast number of statues, chalices, and other utensils of gold and silver finely wrought and set with precious stones, a great many rich sacerdotal vestments, and an immense quantity of donatives, offered to the relicks of three eminent Russian saints which are here interred: so that the treasure of this church is said to be equal, at least, to that of any cathedral in Europe.—The tombs

tombs of the princes who never reigned are in a ſeparate chapel; and the princeſſes of the blood are interred in a neighbouring monaſtery of nuns, which is a noble ſtructure.

IT is obſerved, that near the churches are hung up ſeveral large bells, which are kept continually chiming; and as we have mentioned ſeveral bells of a very extraordinary ſize, we ought not to omit one of thoſe at Moſcow, which Mr. Hanway obſerves, affords a ſurprizing proof of the folly of thoſe who cauſed it to be made; but the Ruſſians, he adds, have from time immemorial, being extremely fond of great bells. This bell is 443,772 pounds weight, and was caſt in the reign of the empreſs Anne, but the beam on which it hung being burnt, it fell, and a large piece is broke out of it.

NEXT to the churches of Moſcow we may reckon thoſe of Peterſburg, eſpecially the cathedral, which is a magnificent edifice, built by the direction of an Italian architect.—That of Niſi-Novogrod is a ſtately pile, all built of ſtone, having fine cupolas, after the model of that of Santa Sophia at Conſtantinople. Theſe cupolas are painted with a ſhining green varniſh, and the tops of them are adorned with neat ſmall croſſes.—Add to theſe the cathedral church of Wologda, an ancient and majeſtic ſtructure, which has alſo five cupolas covered with tin, and croſſes on the tops of them finely gilt, which, when the ſun ſhines upon them, make a glittering appearance. Beſides this there are twenty other ſtone-churches in that city, and above forty more built of timber.

As to the imperial palaces, there are two noble ones at Moſcow, the one of timber, the other of ſtone, and built after the Italian manner Her Czariſh

Czarish Majesty's pleasure-house called Petershoff, was built on the coast of Ingria, by Peter the Great; since whose time no expence has been spared in adding to the fine situation of this palace, all the embellishments of art. The building is indeed far from being regular, but it stands on a hill about sixty feet high; and on one side has a most extensive prospect, diversified with noble objects, as the city of Petersburg, Cronstadt, and the gulph of Finland. The gardens are extremely elegant, and adorned with fountains that throw up vast columns of water, to an extraordinary height; and whoever views these, with the grottos, double cascades, pleasant groves, and many other ornaments, will not think these gardens much inferior to those of Versailles, which they excel in the sweetness of the water. Among the summer-houses, is one distinguished by the name of Mon Plaisir, or My Delight; and is particularly remarkable for its curious paintings.

THE Imperial winter-palace at Petersburg is a large square building, three stories high, but the architecture is not extraordinary. Behind it, in a spacious area, stands a noble equestrian statue of brass gilt, erected in honour of Peter the Great. Adjoining to this, along the banks of the Neva, are several other palaces, particularly the old Imperial winter palace, and a delightful Imperial summer palace. This last is all of wood, and being only one story high, resembles a pleasure-house. Behind it are several stone buildings for the officers of the court. It has a fine orangery, and a large beautiful garden, most admirably adorned with grotto fountains, and other water-works; with a great number of valuable marble, and alabaster statues brought from Italy; but all of them are not executed with equal skill. Two

of

of these statues, which stand near the grotto, representing Faith and Religion, are greatly admired by the connoisseurs for the appearance of the faces, through their transparent veils, which seem to cover them.

MR. HANWAY observes, that with respect to the modern palaces and other buildings, an Italian architect having settled in Russia, notwithstanding the difference of climate, the taste of Italy is adopted at Petersburg; and though the cold of winter is extremely severe, the houses abound much more in windows than ours.

IT will not perhaps be improper to add to this account of the buildings of Russia, a short view of some of the great works undertaken by Peter the Great. One of the most useful of these is a canal, near seventy English miles in length, seventy feet in breadth, and ten or eleven deep, which that prince caused to be cut from the south-west extremity of the lake of Ladoga, to the sea. This great work was begun in 1718, and though vigorously prosecuted, was not compleated till the year 1732, in the reign of the empress Anne. This canal has twenty-five sluices upon it, and several rivers running into it. At the distance of every werst along its banks, is a pillar, marked with the number of werfts; and it is the constant employment of a regiment of soldiers, to keep the canal in repair; for which purpose they are quartered along its banks.

AMONG other great works, the same prince caused a road to be cut from Petersburg, that was to extend seven hundred and thirty-four werfts, or four hundred and eighty-seven English miles, in a direct line; but it is not compleated. Vast forests of fir, birch, and other trees, were cut through, and a passage made through morasses, till

till then thought impaſſable. Immenſe quantities of timber were hewn down, ditches were made, and the earth being thrown up and levelled, ſtrait firs, with their ſurfaces made plain, were laid cloſe to each other upon it. Theſe are ſupported by a foundation of the ſame kind of timber, compoſed of a row of trees, on each ſide ſecured by croſs timbers. This road of timber is carried according as the land requires it, for about a hundred and fifty werſts, and as Mr. Hanway calculated, contains two millions one hundred thouſand trees.

To theſe works it will be proper to add, that ſince the building of Peterſburg, the whole road between that city and Moſcow has been planted with trees, to diſtinguiſh it in winter, when the country is covered with ſnow. Theſe are firs planted on both ſides, at the diſtance of twenty yards from each other, which, at a moderate computation, amount to a hundred and twenty eight thouſand four hundred and eighty trees, and at certain diſtances, are uſually great piles of wood, in order to give light to the empreſs and her court, if they paſs through that road in the night. On theſe occaſions, her late Imperial majeſty was drawn in a kind of houſe, that contained her bed, a table, and other conveniencies, where four perſons might take a repaſt. This wooden ſtructure, which had a ſloping roof, and ſmall windows, to admit as little cold as poſſible, was fixed on a ſledge, and drawn by twenty-four poſt-horſes; and if any of them failed on the road, others were ready to ſupply their places. The late empreſs was ſeldom more than three days and nights on the way; notwithſtanding her having ſeveral ſmall palaces, at which ſhe ſometimes ſtopped to refreſh herſelf, and the diſtance being no leſs than four hundred and eighty-eight Engliſh miles,

miles. Peter the Great once made the journey in forty six hours, but did not travel in the same carriage; and Mr. Busching observes, that it is not uncommon to go it with post-horses, in seventy two hours.

Of the RUSSIANS.

BEFORE the reign of Peter the Great, the Russians might justly be termed Savages; but by incredible application, that wise prince wrought such a change in their manners, as sets them, in a great measure, on a level with other civilized nations. They are, for the most part, of the middle stature; and the common people are still fond of their ancient customs. Indeed the majority of them have been gradually brought to submit, tho' with reluctance, to modern improvements; yet many chuse to suffer great inconveniencies, and to pay additional taxes, rather than cut off their beards, and conform to some regulations with respect to religion.

THE Russian women are extremely fond of paint, and daubing their cheeks with red, and even the poor beg money to buy paint, to mend their complexions. By this means they conceal the graces which nature bestows on them. Persons of distinction are fond of state and splendor; but the common people are cloathed with long coats made of dressed sheep-skins, secured by a cord of rushes; and their sandals are of the same materials. Their caps are lined with fur, and cover not only the head, but the neck; they have sashes round their waist, and double gloves; one of woollen, and the other of leather, which take in the hand, without any distinction, except the thumb. However, persons in tolerable circumstances

ſtances dreſs nearly as we do in England, only they wear a full great coat lined with fur, with a deep quilted or fur cap when they go abroad. The women of the lower claſs, beſides their petticoats, wear ſheep-ſkins, like the men; but thoſe of ſuperior rank have flowered ſilk cloaks, commonly lined with the ſkins of white hares; and ladies of great diſtinction, have them lined with rich furs, and wear them almoſt conſtantly.

PEOPLE of both ſexes have a croſs hanging at their breaſt, which is put on when they are baptized, and they never lay it aſide as long as they live: the peaſants have them of lead, but thoſe worn by wealthy perſons are of gold or ſilver.

THE Ruſſians ſeldom fail of bathing twice a week, for which purpoſe almoſt every houſekeeper is provided with a bath; and he that has none of his own, goes to thoſe that are public. They often ſally out naked from the warm bath, run about in the cold, roll themſelves in the ſnow, and then plunge again into the warm water, from the opinion, that this viciſſitude of heat and cold ſtrengthens the conſtitution, and renders them robuſt and hardy.

THE uſual method of building, both in the town and country villages, is to lay one beam of wood upon another, and faſtening them at the four corners, fill up the ſpaces between the beams with moſs. They then cover the houſe with ſhingles, and cut holes in the timber for doors and windows. A brick ſtove, or large oven, is uſually made in the peaſants houſes; this is flat at the top, and boarded. Upon this, and on a ſort of ſhelves round the room, they ſleep without beds. Their furniture conſiſts of a long table, three benches, and a picture of a ſaint or two.

Inſtead

Inſtead of candles or lamps, the peaſants uſually burn long ſplinters of deal. Their apartments are as black as poſſible; for the fire hearth being within the above ſtove, which has no other vent for the ſmoke but into the room, the walls are covered with ſoot.

THE extreme fondneſs of the common people for ſpirituous liquors, and other ſtrong drink, eſpecially in the carnaval time, is in a great meaſure owing to the ſeverity of the winter, their rigorous faſts, and the ſlender diet they live upon throughout the year: their food chiefly conſiſting of turnips, peas, cabbages, large cucumbers, onions, and fiſh. Their common drink is a kind of ſmall mead; but even among the gentry, brandy makes a part of every repaſt. Their faſts take up near two thirds of the year, and theſe are obſerved with great ſtrictneſs. At other times, people of rank have at their tables a variety of fleſh meat and fowl; but before they ſit down the miſtreſs of the family preſents every one of the gueſts with a cup of brandy on a plate or ſalver; and among particular friends, all the company ſalute her. The firſt diſh uſually conſiſts of hams, tongues, and made diſhes, dreſſed with oil, olives, onions, and garlick; which having remained ſome time on the table, they bring in a ſecond courſe, conſiſting of ſoups, roaſt, and boiled meat; after which follows the deſart, and plenty of wine, brandy, beer, and mead.

PEOPLE of the ordinary rank ſalute each other with great civility; but before a Ruſſian welcomes his gueſt, his viſitor muſt make the ſign of the croſs, and bow to the picture of a Saint, which is ſo placed, as to be immediately ſeen on his coming in. In viſits of ceremony the men and women generally welcome each other with a kiſs; but

but thoſe of the lower claſs ſhew their reſpect to perſons of high rank, by proſtrating themſelves on the ground before them.

PETER the Great ſpared neither trouble nor expence, to diſpel the clouds of ignorance, which, till his time, had overſpread his empire, and to inſpire his ſubjects with a taſte for the arts and ſciences: he founded an univerſity, a ſeminary, and an academy of ſciences, at Peterſburg, beſides other ſchools in the different parts of his empire: invited perſons of learning, and ſkill in the arts, to ſettle in his dominions; and encourage his ſubjects to travel where the arts and ſciences flouriſhed. Hence perſons of genius among the Ruſſians have cultivated their minds, and make ſome figure in the republic of letters. Indeed, as there are only three univerſities in that vaſt empire, learning may be ſaid to be yet only in its infancy, and the number of the learned Ruſſians is but ſmall. The ſtudies to which they chiefly apply themſelves are hiſtory, geography, and the mathematicks. The members of the academy of ſciences at Peterſburg, not only publiſh their own memoirs, but compoſe a variety of books for the inſtruction of youth in the ſciences; and make tranſlations of the moſt uſeful books publiſhed in foreign countries. All the mechanic arts and trades are alſo continually improving in Ruſſia. Theſe were begun by foreigners, but the natives, ſpurred on by emulation, frequently equal, and ſometimes exceed their maſters. They have flouriſhing manufactures of velvet, ſilk, linnen, and woollen ſtuffs; they work in copper, braſs, iron, ſteel, and tin; cannon, muſkets, gunpowder, wire, paper, parchment, glaſs, cordage, and ſail cloth, are alſo made in Ruſſia; but

moſt of them are inferior to thoſe imported from other countries.

THE people are, however, in a ſtate of the greateſt ſubjection, for the government is perfectly abſolute; and notwithſtanding Peter's giving them the name of Subjects, the people of all ranks may be juſtly termed ſlaves, their lives and fortunes ſolely depending on the will of their ſovereigns. Yet ſuch as are employed in ſtate affairs, have their ſhare of arbitrary power, their peoceedings being without appeal, and the peaſants are ſtill perfect ſlaves, and abſolutely ſubject to the arbitrary power of their lords, who may treat them as they pleaſe, provided they do not kill them. However, for deciding cauſes between private men, they make uſe of precedents, and a code of written laws.

IN diſputes between private perſons, where the parties diſagree about a matter of fact, and have no evidence on either ſide, the judge aſks the plaintiff, whether he will take his oath that the affair was as he has repreſented it, or refer it to the oath of the defendant. He who is to be ſworn, is brought before a picture of one of their Saints, where he is aſked, whether he will ſwear upon the ſalvation of his ſoul? If he anſwers in the affirmative, they give him a little crucifix to kiſs; and afterwards the picture of a Saint, which is taken down from the wall for that purpoſe. But though the oath be indiſputably true, the perſon who takes it, is not admitted to communion for three years, and people of any rank will not eaſily ſuffer him in their company; but the perjured is puniſhed with the knute, and then baniſhed. Hence the Ruſſians endeavour, as much as poſſible, to avoid taking an oath, though they are very guilty of profane ſwearing. Strangers are allowed

allowed to take their oaths according to the rules of their several religions.

THE office of executioner is hereditary, and is now esteemed infamous, but upon failure of issue, the butchers are obliged to choose one out of their body. The usual punishments in Russia are the Battogen, Katza, and Knute. He who is sentenced to suffer the Battogen, is stripped to his shirt, and laid with his belly upon the ground; when one man sitting upon his neck, and another upon his feet, beat him on the back with switches, during the time ordered by the judge.

THE Katza is slitting the nostrils, which was formerly inflicted on all, who, contrary to an old prohibition, took snuff.

THE Knute is a most barbarous punishment. Olearius gives a description of the manner in which he saw it inflicted on eight men and one woman, only for selling brandy and tobacco, without a licence. The executioner's man, after stripping them down to the waist, tied their feet, and took one at a time upon his back. The executioner stood at three paces distance with a bull's pizzle, to the end of which were fastened three thongs of an elk-skin, untanned, with which, springing forward, whenever he struck, the blood gushed out at every blow. The men had each twenty-five or twenty-six lashes, till an officer, who had the number they were to receive in writing, cried, Enough. The woman, who had only sixteen, fainted away. After their backs were thus dreadfully mangled, they were tied together two and two, those who sold tobacco, having a little horn of it, and those who had sold brandy, a little bottle put about their necks; and then they were whipt through the city for about a mile and a half; after which they were brought back to the place

of their firſt puniſhment, and diſmiſſed. According to M. de la Motreye, this is what is termed the moderate Knute; for when the ſentence orders it, between the moderate and ſevere, the executioner takes off pieces of fleſh at every ſtroke; and when it is ordered to be given with the utmoſt ſeverity, the executioners, ſtriking the flank under the rib, cuts the fleſh to the very bowels. It is no wonder that many die of this cruel and inhuman puniſhment. Offenders are alſo ſometimes baſtinadoed on the ſoles of their feet, in a moſt cruel manner.

THEY torture thieves with all the cruelty that can be conceived, in order to make them diſcover their accomplices, and confeſs their other crimes. Yet for the firſt offence, the thief is only whipt from the priſon to the market-place, where he has his ears cut off; and is ſent back to priſon for two years. If he offends a ſecond time, he is whipt as before, and baniſhed into Siberia. Theft is there never puniſhed with death, but the receivers of ſtolen goods are puniſhed in the ſame manner as the thief.

SEVERE as the Ruſſians are in the puniſhment of ſmall offences, that for murder is extremely merciful; the criminal being only kept ſix weeks in a cloſe priſon upon bread and water alone, after which he receives the communion, and is beheaded. Yet he who cannot pay his creditor at the time agreed upon, is put into the houſe of an officer, and has at firſt a farther time allowed him; but if he then fails, he is not only carried to priſon, but is brought out every day to a place before the chancery, where the common executioner beats him upon the ſhin bones with a ſmall ſwitch for an hour together. He is then returned to priſon, except he can give ſecurity for his appearing again

the

the next day at the ſame hour, to be treated in the ſame manner, till he has made ſatisfaction. This is rigorouſly executed upon perſons of all ranks, ſubjects and foreigners, men and women, prieſts and laymen; and if the debtor is at laſt unable to pay, he, with his wife and children, are ſentenced to be bond-ſlaves to the creditor.

We ought not to conclude this account of the puniſhments inflicted by the Ruſſians, without taking notice of the manner in which they put to death the pirates on the river Wolga, who are a cruel and bloody band of deſperate villains. However the puniſhment of theſe wretches, when taken, is not leſs dreadful than the cruelties they commit. A float is built, whereon a gallows is erected, on which is faſtened a number of iron hooks, and on theſe they are hung alive by the ribs. The float is then launched into the ſtream with labels over their heads, ſignifying their crime; and orders are given to all the towns and villages on the borders of the river, that none, upon pain of death, ſhall afford relief to any of theſe wretches; but put off the float, if it runs aſhore. Sometimes they are met by their partners in wickedneſs, who if they have any hopes of their recovery take them down, otherwiſe they put an end to their lives by ſhooting them; but if they are caught in theſe illegal acts of mercy, they are themſelves hung up, without the ceremony of a trial. It is ſaid, that one of theſe miſcreants had the good fortune to diſengage himſelf from the hook, and though naked and trembling with pain and loſs of blood, he got a ſhore, when the firſt object he ſaw being a poor ſhepherd, he had the cruelty to beat out his brains with a ſtone, and then to take his cloaths. Theſe malefactors frequently hang thus, three, four, and ſometimes

five days alive. The pain generally produces a raging fever, wherein they utter the moſt horrid imprecations, and cry out for water to quench their thirſt.

To this account of the Ruſſians we ſhall add a conciſe deſcription of the manners of the inhabitants of Kamptſchatka, which, as we have already ſaid, is on the eaſtern extremity of Siberia, and ſubject to Ruſſia, yet being at an immenſe diſtance, their manners and cuſtoms are very different from thoſe of the Ruſſians.

Of the KAMTSCHADALES.

THESE people are ſwarthy and of a ſmall ſtature; they have a broad face, black hair, hollow eyes, ſmall and thin eye-brows, a ſharp noſe, and ſlender legs. Their faces are ſhorter than thoſe of the other Siberians, their cheeks are more ſwelling, they have broad ſhoulders, and wide mouths.

THEY are dreſſed in the ſkin of deer, dogs, and other land and ſea-animals, and even the ſkins of birds; and it is not unuſual with them, to uſe thoſe of different animals in the ſame garment. They generally wear two coats; the under coat with the hairy ſide inwards, and the upper with the hair outwards, which is commonly made of black, white, or ſpeckled ſkins. Some have their ſkirts of an equal length, while others have them long behind, in the form of a train. The ſleeves of the upper coat are wide, and ſo long as to hang below the knee; and it has a hood, which, in bad weather, they put over their heads. They border their coat with white dogs ſkin, and upon their backs, ſew ſmall ſhreds of different coloured ſkins or ſilk. Theſe are worn both by men and women, but the latter commonly wear at home an under garment, conſiſting of a waiſtcoat and drawers

drawers tied together. The men at home wear only a girdle of leather, with a band before, and a leathern apron behind, and below their girdles they wear linnen ſhirts, which they buy of the Ruſſians. Their feet and legs are covered with different ſorts of ſkins. During the rains of ſummer, their ſtockings or buſkins are of ſeal-ſkins, with the hair outwards; but their moſt common covering for their legs, is the ſkin of the legs of rein deer: however, their fineſt buſkins are made with the ſoal of a white ſeal-ſkin; the upper part of fine dyed leather, the hind quarters of white dog-ſkin, and what comes round the legs is of dreſſed leather, or dyed ſeal-ſkins, with the upper parts worked with the needle. They wear fur caps, and in ſummer a kind of hats of birch-bark. However, in the Ruſſian ſettlements, the ancient dreſs is laid aſide, and the women wear ſhifts, ruffles, caps, waiſtcoats, and ribbons; and though they formerly never waſhed their faces, they now uſe white and red paint. But ſtill the diſtant inhabitants neither waſh their hands, nor cut their nails; they eat out of the ſame diſh as the dogs, and yet never waſh it; and every thing about them ſtinks of fiſh. They never comb their heads, but both men and women plait their hair in two locks, binding the ends with ſmall cords; and when any hair ſtarts out, they faſten it cloſe with thread; hence they are exceſſive louſy.

THEIR manners are extremely unpoliſhed, they never uſing any civil ſalutation; for they never take off their caps, nor bow to each other. But though their diſcourſe betrays great ignorance and ſtupidity, they, upon many occaſions, appear curious and inquiſitive.

IN winter they live under ground, where they build their huts by digging a hole about five feet deep, and of a breadth and length, in proportion to the number of perſons deſigned to live in it, fixing at the corners four pieces of timber, upon which they place beams, and upon them form their roof or cieling; leaving in the middle an opening, which ſerves both for a window and a chimney. This building they cover with graſs and earth, ſo that it reſembles a round hillock. The room below forms an oblong ſquare, with the fire-place in one of the long ſides; and round the room are benches, on which each family lies ſeparately, except on the ſide oppoſite to the fire, where they place their kitchen furniture, and dreſs victuals. In ſome huts, inſtead of benches, the place is floored with wood and covered with mats. Theſe huts are entered by ladders, and the Kamptſchadales live in them all the winter.

THEIR ſummer huts are made by fixing nine pillars, about four yards long or more, in the ground, and binding them together with beams laid over them; upon theſe they form a floor, and from thence raiſe a ſharp roof, riſing from each ſide up to a point in the middle, and thatching it with graſs, with a door on each ſide. Theſe ſummer-huts are thus placed high above the ground, on account of the frequent rain, which would ſpoil all the fiſh, were it not preſerved in ſuch places, and to prevent their being plundered by the wild beaſts; for notwithſtanding all their care, the bears ſometims climb up and force their way into theſe ſtore-houſes, eſpecially in the time of harveſt, when the fiſh and berries grow ſcarce. Theſe are built round their winter habitations; and during that ſeaſon, ſerve only as ſtore-houſes. However, the ſouthern Kamptſchadales generally build

build their villages in thick woods, at a considerable distance from the sea; and their summer habitations near the mouths of the rivers. Their household furniture consists in dishes, troughs, bowls and cans.

THEY generally seek for a wife in some of the neighbouring villages, and seldom in their own; and when a Kamptschadale has found one to his mind, he lets her parents know it, and desires to have the liberty of serving them for some time; which is no sooner expired, than he begs to have the liberty of seizing his bride; which, if he has pleased the parents, is instantly granted; otherwise he is dismissed, with a present for his services. As the whole ceremony of marriage consists in stripping the young woman naked, this is rendered as difficult as possible: she has two or three different coats, and is swathed round with fishing-nets and straps; besides, all the women in the village are obliged to protect her. The lover therefore watches for an opportunity of finding her alone, or when there are but few women with her; and then rushes upon her, and begins to pull off her straps, nets, and cloaths; but this is no easy task; for tho' the young woman herself makes only a faint resistance, those in her company fall upon him without mercy, dragging him by the hair, beating him and scratching his face, using every method they can think of to prevent his accomplishing his design. If he succeeds in his attempt, he immediately runs from her, when the bride, as a proof of her being conquered, calls him back, with a soft and feeble voice. The same night he goes to bed to her, and the next day he takes her home. Some time after they return to the bride's relations, where the marriage feast is celebrated.

WHEN a widow is married, the agreement of the parties is ſufficient; but our author ſays, the man muſt not take her to himſelf before her ſins are done away, which can only be accompliſhed by a ſtranger's once lying with her; but as the Kamptſchadales conſider the taking off of ſin as extremely diſhonourable for the man, it was formerly very difficult to procure one to undertake it; but ſince the Coſſacs are come among them, the poor widows are in no diſtreſs for ſtrangers to purify them from their ſins.

A KAMPTSCHADALE has frequently three wives, tho', with every maid, he is obliged to undergo the above ceremony: however, the women are ſo far from being inclined to jealouſy, that the wives live together in perfect harmony. They have commonly very eaſy labours, and are delivered upon their knees, in the preſence of all the people in the village, without diſtinction of age or ſex, the woman's mother, or neareſt relation, performing the office of midwife. Though endeavouring to procure abortion is eſteemed a capital crime, yet they have the barbarous cuſtom of being obliged to deſtroy one of the children, when a woman bears twins; and alſo any child that happens to be born in ſtormy weather.

WHEN the women go abroad, they veil their faces; and if they meet a man, and cannot get out of the way, they turn their backs to him, till he has paſſed by. The women, who have generally clear and agreeable voices, compoſe their love-ſongs, in which they declare their affection to their lovers, their fondneſs, grief, and other paſſions; but though they are fond of muſic, they have no other inſtrument but a kind of flute, on which they play very indifferently. The women entertain each other thus with mirth and ſinging, while

while the men entertain their guests by endeavouring to make them eat till they are sick, and suffocating them with heat. They, however, sometimes smoke, and tell stories with their friends.

BEFORE the Kamptschadales were conquered by the Russians, they used to sew their cloaths with needles made of bone, and instead of thread, made use of the fibres of the deer, which they split, till they brought it to the thickness required: of stones and bones they also made hatchets, spears, lances, and arrows. Their hatchets were sometimes made of flint, and sometimes of the bones of whales, or rein-deer; they were in the form of a wedge, and fastened to crooked handles. With these they hollowed out their troughs, canoes, and bowls; but the work was so tedious, that the making a canoe cost the labour of three years; and their wooden bowls, which were long in making, were more valued by them than vessels of the most precious metals are with us. In these bowls they dress their victuals, and heat their broth, by throwing red-hot stones into it. They made their knives of a greenish crystal, sharp pointed, and shaped like a lancet, stuck into a wooden handle. In order to kindle a fire, they use a board of dry wood, in which are several round holes, and putting the end of a small round stick into one of them, roll it backwards and forwards with the palms of both hands, till the friction causes the wood to take fire. These instruments are so highly valued, that they are never without them, for they prefer them to steel and flints; yet they are extremely fond of iron hatchets, knives and needles. The Russian traders are forbid to sell them any warlike instruments; but they are so ingenious, as to make spears and arrows out of the iron pots and kettles that are sold to them; and,

what seems more extraordinary, when the eye of a needle is broke, they make a new one, which they repeat till nothing remains but the point; but it is probable the needles they use are not very fine ones. In short, all the men not only understand hunting, fishing, and weaving nets, but also making sledges and boats, building their huts, and forming their furniture and warlike instruments.

IN travelling, they make use of sledges drawn by four dogs, sitting upon the right side of the sledge, with their feet hanging down; for it would be thought a disgrace to sit in it, or to have a person to drive them, no body doing this but the women. A man is therefore obliged to keep an exact balance, to prevent his being overturned, which would be very dangerous, as the dogs never stop till they come to a house, and in going down steep hills, run with all their force; therefore, in descending great declivities, they unyoke all the dogs except one, and lead them gently down. They also walk up every steep ascent, for it is as much as the dogs can do, to drag up the empty sledge. Upon a tolerable road, they can travel with a sledge filled with provisions, and the driver, about thirty werfts a day; and in spring, when the snow is hard, they can travel with only the driver a hundred and fifty werfts. If a number of travellers are surprized by a storm, they take a place of shelter under the snow, and cover the entrance with wood or brambles. They, however, seldom make these temporary huts, but more commonly hide themselves in holes of the earth, wrapping themselves in their furs, with the snow over them; and when thus covered, they move with great caution, lest they should throw off the snow, which keeps them perfectly warm; they must

must only have the convenience of a breathing-place.

THERE is one extraordinary custom observed among these people, that appears extremely savage; that is, instead of burying the dead, they drag the corpse out of the hut, with a strap fastened round the neck; and then deliver it for food to their dogs, alledging that those who are devoured by dogs, will be drawn in sledges by fine dogs in the other world; and that the corpse is thus used near the hut, that the evil spirits, who have occasioned his death, may be satisfied with the mischief they have done. However, it is not unusual, when a person has died in the hut, to remove to another, and leave the corpse behind.

HAVING thus gone through the Russian empire, it remains to take a view of the Turkish dominions in Europe, which will finish the first part of our undertaking.

CHAP. XII.

Of TURKEY, in EUROPE.

CAVERNS, NEW ISLANDS, &c.

THIS part of the Turkish empire was formerly the most considerable of the European continent, having been inhabited by nations who make the greatest figure in ancient history. The valour, wisdom, and learning of the old Grecians in particular, is well known to all who are in the least acquainted with antiquity, their country being once the most celebrated in the universe, surpassing all others in arms, arts, and sciences. It was for many ages divided into several small kingdoms

kingdoms and republics, which were at length reduced to the ſubjection of the Macedonians, and afterwards became a province of the Roman empire; and ſo it continued (though harraſſed and diſmembered by the Goths and Huns) till it was over-run by the Turks, who are its preſent maſters. In this and other parts of the Turkiſh dominions we ſhall find many curious remains of antiquity; but, according to our method, ſome articles of natural hiſtory come firſt under conſideration.

IN the courſe of this work, we have already deſcribed ſeveral remarkable caves or grottos, but perhaps no curioſity of this kind deſerves our attention more than the grotto of Antiparos, an iſland in the Archipelago, which M. Tournefort, who viewed it in the year 1700, repreſents as one of the greateſt wonders in nature. The deſcent into this grotto is very difficult and dangerous, being for the moſt part down rocks and frightful precipices, by means of ropes and ladders, and the aſſiſtance of guides who attend with torches. From the firſt entrance into the cavern, to the bottom of the grotto, is reckoned a hundred and fifty fathoms, and the grotto itſelf is about forty fathoms high and fifty broad. The roof, which is in form of an arch, is embelliſhed with variety of natural fret-work, from whence hang reſemblances of bunches of grapes, feſtoons, and lances of a ſurprizing length. All round the grotto are formed ſeveral little cloſets or cabinets, among which there is one particularly remarkable, the productions that form it (ſays M. Tournefort) ſo exactly reſembling the roots, ſtems, and heads of collyflowers, that one would think nature intended thereby to ſhew us how ſhe operates in the vegetation

vegetation of ſtones *. Theſe figures are all of white marble, tranſparent in ſmall pieces, and, when ſtruck, ſound like copper.—Here are likewiſe three or four columns of the ſame ſtone, planted like trunks of trees on the top of a little rock, one of which is ſix feet eight inches high, and one foot in diameter, and on the ſame rock are ſeveral other budding pillars, reſembling the ſtumps of horns. Theſe ſtems of marble (adds our author) muſt certainly vegetate, for not a drop of water falls into the place; and if it did, we cannot conceive how a few drops, falling from

* That ſtones vegetate, or grow in the manner of plants, ſeems to have been an ancient and forgotten hypotheſis, but lately revived by M. Tournefort, who, at his return from the Levant, propoſed his theory to the Royal Academy of Sciences at Paris, which he ſupported by a variety of arguments and obſervations. He took notice, in ſurveying the Labyrinth of Crete, that ſeveral people had cut their names in the rock, and that the letters, inſtead of being hollow, as they muſt have been at firſt, (being cut with the point of a knife) were become prominent, and ſtood out from the ſurface of the ſtone, like ſo many baſſo-relievos. Hence he inferred, that the nutritious juice of the ſtone, being extravaſated, had gradually filled up the cavities of the letters, and formed a ſort of calloſity, like thoſe at the extremities of the fibres of broken bones, or on the bark of trees that have been cut with a knife or graver: and being confirmed in his opinion by ſimilar calloſities, formed on ſeveral other ſtones which had re-united after they had been broken, he made no doubt of aſcribing this effect to vegetation. But this is not all: the ſame gentleman thinks it probable, that ſtones not only grow, but are generated like plants, having their reſpective ſeeds, which he ſuppoſes are a kind of duſt that falls from them while they are alive, or continue to vegetate; at leaſt there are abundance of ſtones whoſe generation is otherwiſe inconceivable. This duſt may be compared to the ſeeds of ſeveral plants, as thoſe of ferns, moſſes, muſhrooms, &c. which were always ſuppoſed deſtitute of ſeed, till it was diſcovered by the aſſiſtance of the microſcope.

ſuch

ſuch a height as the top of this grotto, ſhould form cylindrical pieces, and always of the ſame regularity.

AT the farther end of the grotto appears a pyramid, ſtill more ſurprizing than what we have mentioned, which has been called the Altar ever ſince the year 1673, when the marquis de Nointel, the French ambaſſador to the Grand Signior, cauſed maſs to be celebrated in this cavern. It ſtands by itſelf, is about eight yards high, and conſiſts of many large bunches reſembling colly-flowers, and all of a dazzling whiteneſs, like the reſt of the grotto. This pyramid M. Tournefort thinks is the fineſt marble-plant in the world; for it is impoſſible (he again inſiſts) that it ſhould be formed by the droppings of water, to which the congelations in grottos are uſually attributed *; and therefore it is more probable that theſe productions, as well as thoſe which hang down from the roof like icicles, are owing to a principle of vegetation.

* What M. Tournefort here calls marble, and ſuppoſes it to vegetate, is a kind of ſpar according to Dr. Hill, who deſcribes it under the name of Hard White Stalactagnium, of which very various and beautiful figures are formed in deep caverns by the accidental courſe and dropping of water; and ſuch combinations and protuberances (he ſays) are what coat over the famous grottoes of the iſlands in the Archipelago, and the caverns of the Hartz foreſt in Germany, which people of fertile imaginations have ſuppoſed to repreſent groves, rivers, trees, plants, buildings, and the forms of various animals. Dr. Hill has particularly mentioned the grotto of Antiparos, but has not taken notice of what M. Tournefort relates concerning it, that not a ſingle drop of water falls from its roof. If this be true, it is ſomewhat difficult to account for the formation of thoſe ſtony icicles that hang down from the top, or the protuberances and incruſtations growing at the bottom and on the ſides of the grotto; ſo that one would wiſh our ingenious countryman had given us his ſentiments as to the manner of their production.

In order to go round this pyramid, one muſt paſs under a great maſs of congelations, the back part of which is hollow like the roof of an oven. The entrance into it is low; but the ſides, which are whiter than alabaſter, are ſo figured as to appear like tapeſtry of great beauty. From the top of the roof, juſt over the pyramid, hang feſtoons of an extraordinary length, which form, as it were, the attic of the altar. At the foot of the altar are two half-columns, the tops whereof M. de Nointel cauſed to be broken off, that they might ſerve as a table in the celebration of the maſs; the memory of which tranſaction is perpetuated by an inſcription carved by his order on the baſis of the pyramid.

In Candia, the ancient Crete, a large iſland in the Mediterranean belonging to the Turks, there is a ſubterranean maze or labyrinth *, which pervades the whole inſide of a hill at the foot of mount Ida, three miles from the ruins of Gortyna. The entrance of this labyrinth is ſeven or eight paces broad, but ſo low, that a man cannot paſs it without ſtooping. The bottom of it is very rough and uneven, but the roof is flat, being formed of beds of ſtone lying horizontally one upon another. Proceeding forwards through a ſloping cavern, we ſoon meet with innumerable turnings and windings, ſo irregular and intricate, that if a perſon happen to ſtrike into any of them out of the main path or alley, he is in great danger of being bewildered and loſt. To prevent

* The reader muſt not imagine, that this is the famous labyrinth built by Dœdalus for Minos king of Crete, which appears from antique medals to have been at Gnoſſus, at that time the capital of the iſland, but now an inconſiderable village. Diodorus Siculus and Pliny tell us, there was not, in their days, the leaſt footſtep of that labyrinth remaining.

this, ſtrangers ſeldom deviate to the right or left, but keep along the principal alley; and to find the ſame way back again the more eaſily, they ſcatter ſtraw on the ground, ſtick up bits of paper at every turning, or take ſome other precaution of that nature. The chief paſſage is about ſeven feet high, and the greateſt part of it is wide enough for three or four perſons to walk a-breaſt; but in ſome places a man muſt ſtoop a little, and in one part he is obliged to creep upon his hands and knees to get along. It is near a mile from the entrance to the end of the labyrinth, where the grand walk divides itſelf into two or three branches, and terminates in circular rooms cut out of the rock, in which ſtrangers reſt themſelves with pleaſure.

BELONIUS, and ſome other authors, have imagined, that this wonderful labyrinth was originally a quarry, out of which ſtones were dug for the building of Gnoſſus and Gortyna; but M. Tournefort, who thoroughly conſidered the matter, gives ſeveral ſtrong reaſons againſt ſuch an hypotheſis. He thinks it much more probable, that it was at firſt a natural cavity, which ſome perſons had the curioſity to enlarge, by widening the paſſages, and taking down ſome ſtrata of ſtone to heighten the roof; for the Cretans, he obſerves, were a polite people, devoted to arts as well as arms, and took delight in perfecting the rude ſketches of nature. There are ſeveral other natural openings in the neighbouring mountains, and abundance of caverns in the rocks throughout the iſland, which ſeem to confirm this conjecture.

AS we are not far from Santorin or Santerini, an iſland in the Archipelago, we think it is not improper to give ſome account of a new iſland, which roſe up near it from the bottom of the ſea towards

towards the beginning of the preſent century. This however is not the firſt prodigy of that kind which has appeared near Santerini, for the Great and Little Burnt Iſland (as they are called) were both raiſed out of the ſea in the ſame manner, the firſt about two hundred years before the birth of our Saviour, the latter in the year 1573; and Aſproneſi, or the White Iſland, which is a little without the bay of Santerini, emerged in the time of Veſpaſian. All this is occaſioned by violent earthquakes and ſubterraneous fires *, whoſe dreadful

* From the ſame cauſes we imagine have proceeded thoſe ſhowers of aſhes which have been obſerved to fall in the Archipelago and the Mediterranean; for ſeveral extraordinary phenomena of this kind, which have been looked upon as preternatural and ominous accidents, have, upon ſtrict enquiry, been found owing to natural cauſes. Thus a bloody rain was thought to have fallen in France, which ſo frightened the country people, that they left their work in the fields; but M. Peireſco examining narrowly into the matter, found it was only red drops coming from a ſort of butterfly which then flew about in great numbers. During a ſcarcity in Sileſia, a rumour was ſpread of its raining millet-ſeed; but upon examination, it proved to be the ſeed of the ivy-leav'd ſpeedwell, or ſmall henbit, which grew there in great abundance. So likewiſe about Warminſter in Wilts, it was reported to have rained wheat, but Mr. Cole found it to be only ivy berries blown thither in a conſiderable quantity by a tempeſt; and this agrees with Dr. Merret's obſervation, that the pretended ſhowers of wheat are nothing but ivy-berries, ſwallowed and voided again by ſtarlings and other birds. Some aſſert the raining of young frogs, ſmall fiſhes, &c. which Dr. Derham ſuppoſes may be tranſported by tempeſtuous winds, (though they may have ſome other conveyance) eſpecially conſidering to what diſtance, and in what quantities, the ſea-water was carried in the great ſtorm in 1703, of which he had the following accounts from a friend in Suſſex: That a phyſician travelling ſoon after the ſtorm, about twenty miles from the ſea, plucked ſome twigs from the hedges, and chewing them, found them to be ſalt: that the graſs of the Downs about Lewes was ſo ſalt, that the ſheep would not feed till compelled by hunger; and that a miller, with

dreadful effects are sufficiently known in several parts of the world; of which they had an instance near Santerini in the year 1650, when the shocks of an earthquake were accompanied with a roaring noise under ground, sulphureous exhalations, an intolerable stench, and a black smoke, which rose out of the sea, mixed with flames, to a considerable height. The sea was then tossed backwards and forwards in such a manner, that it overflowed and destroyed thirty thousand perches of land in Santerini, and the air was so infected with exhalations from the fire, that twenty-five persons, and a great many beasts, were stifled. At length, when the force of the fire and earthquake had raised up a mass of earth and stones within eight or ten fathoms of the surface of the sea, a vent being opened on a sudden, the water rushed in like a torrent, and extinguished the fire, and thereby prevented the appearance of another island. History affords us several other instances of the surprizing effects of these concussions of the earth near Santerini, and particularly M. Thevenot relates, that about the year 1638, a prodigious quantity of pumice-stones was cast up from the bottom of the sea, with such noise and roaring, as resembled the discharge of artillery; insomuch that the inhabitants of Scio, which is above a hundred miles distant, imagined the Venetian and Turkish fleets were engaged. The air was likewise so filled with noxious exhalations, that many people died in Santerini, and the silver in men's pockets or chests was tarnished, even at the

with his man, attempting to secure his mill, which was three miles distant from the sea, were so washed by flashes of sea-water, like the breakings of waves against the rocks, that they were almost strangled with it, and forced to give over their attempt.

distance

distance of Scio and Smyrna.—But to come to the account of the last new island that appeared in the Bay of Santerini, as we have it from F. Goree, who was an eye-witness of its formation.

On the 23d of May 1707, after an earthquake that happened the night before, a new island was discovered early in the morning by some seamen, who not being able to distinguish what it was, and taking it for some wreck brought thither in the night-time, rowed immediately towards it; but finding a heap of rocks and earth, instead of a floating wreck, they hastened back again, and spread the report over Santerini. How great soever the apprehensions of the inhabitants were at the first sight of this phænomenon, their surprize abated in a few days, and seeing no appearance of fire or smoke, some of them ventured to go ashore upon the new island. Their curiosity led them from one rock to another, where they found a sort of white stone that cut like bread, and very much resembled it in form, colour and consistence. They also found great numbers of oysters sticking to the rocks, but whilst they were employed in gathering them, they perceived the island move and shake under their feet, upon which they retired to their boats with precipitation. With these motions and tremblings the island every day increased, not only in height, but also in length and breadth; though now and then it happened, that whilst it was raised and extended on one side, it sunk and diminished on the other. F. Goree observed a rock rise out of the sea, about forty or fifty paces from the island, which continued four days together, when it sunk again and appeared no more; but several others appeared and disappeared alternately, which at last remained fixed and unmoved. During this time the colour

of

of the surrounding sea was changed, being at first of a light green, then reddish, and afterwards of a pale yellow, accompanied with a noisome stench, which spread itself over great part of Santerini.

THE smoke appeared first on the 16th of July, not indeed from the island itself, but from a ridge of black stones which suddenly rose up about sixty paces from it, where the depth of the sea was before unfathomable. Thus for some time there were two separate islands, whereof one was called the White, and the other the Black Island, by reason of their different colour; but they were not long before they united, and that in such a manner, that these black rocks became the centre of the whole island. The smoke issuing from them was very thick, and of a whitish colour, like that of a lime-kiln; which being driven by the wind towards Santerini, it penetrated the houses of the inhabitants, but without doing much harm, the smell not being then very offensive.

IN the night between the 19th and 20th of July, flames were observed to issue with the smoke, to the great terror of the inhabitants of Santerini, especially those of the castle of Scaro, who were not above half a league distant from the burning island. This island now increased very fast, large rocks daily springing up, which added sometimes to its length, sometimes to its breadth, insomuch that the additions from time to time might easily be perceived. The smoke also increased very much, and there being no wind stirring, it ascended so high as to be seen at Candia, Naxos, and other distant islands. During the night it appeared like a column of fire fifteen or twenty feet high; and the sea at that time was covered with a scurf or froth, in some places reddish, and in others yellowish, from whence proceeded such a stench

a ſtench over the whole iſland of Santerini, that they were obliged to burn perfumes in their houſes, and to make fires in the ſtreets to prevent infection. This indeed did not laſt above a day or two, the froth being diſperſed by a ſtrong gale of wind; but another evil quickly followed, for the wind drove the ſmoke upon moſt of the vineyards of Santerini, whereby the grapes in one night were parched up and deſtroyed. It was alſo obſerved, that the ſmoke ſullied plate and copper, and cauſed violent head-achs, attended with reachings.

THE 31ſt of July the ſea was perceived to ſmoke and bubble near the iſland in two different places, where the water formed a perfect circle, and looked like oil when ſet upon the fire. This laſted for above a month, during which time a great many fiſh were found dead on the ſhore. The following night was heard a dull hollow noiſe, like the diſtant report of ſeveral cannon; which was immediately followed by flames of fire ſhooting up from the furnace to a great height in the air, where they ſuddenly diſappeared. The next day the ſame hollow ſound was heard ſeveral times, and ſucceeded by a blackiſh ſmoke, which, notwithſtanding a pretty freſh gale, roſe up in the form of a column to a prodigious height; and this in the night would probably have appeared as if it were all on fire.

ON the 7th of Auguſt the noiſe was different, reſembling that of large ſtones thrown all together into a deep well, and the extremities of the iſland ſeemed to be in great commotion. This noiſe after it had laſted ſome days, was ſucceeded by another much louder, which ſo nearly reſembled thunder, as hardly to be diſtinguiſhed from three or four real claps, that happened about the ſame time.

time. On the 21st the fire and smoke were considerably diminished, but the next morning they broke out with greater fury than before. The smoke was red and very thick, and the heat was so intense, that all round the island the sea smoked and bubbled up in a surprizing manner. At night F. Goree, viewing with a telescope the large furnace upon the highest part of the island, discovered sixty smaller openings or funnels, all which emitted a very bright flame; and he imagined there might be as many more on the other side of the great Volcano.

THE 23d of August, in the morning, our author observed the island was much higher than the day before, and that its breadth was increased by a chain of rocks sprung up in the night-time, almost fifty feet above water. The sea was also covered again with the reddish froth above mentioned, which always appeared when the island received any considerable additions, and occasioned an intolerable stench, till it was dispersed by the wind and the motion of the waves.

THE 5th of September the fire opened itself another vent at the extremity of the Black Island, from whence it issued for several days, during which time there came but little out of the large furnace: and from this new passage it was surprizing to see the fire dart up three several times to a vast height, resembling so many sky-rockets of a glowing lively red. The following night the subterraneous thunder made a terrible noise, and immediately afterwards a thousand sheaves of fire, as it were, flew up into the air, where breaking and dispersing they fell like a shower of stars upon the island, which appeared all in a blaze, presenting to the astonished spectators at once a most dreadful and beautiful illumination. To these natural

tural fireworks ſucceeded a kind of meteor, which hung for ſome time over the caſtle of Scaro like a fiery ſword, and increaſed the conſternation of the inhabitants.

On the 9th of September the White and Black iſlands united, after which the weſtern end of the iſland daily increaſed. There were now only four openings that emitted flames, which came out with great impetuoſity, ſometimes attended with a noiſe like a large organ-pipe, and ſometimes like the howling of wild beaſts. On the 12th the ſubterraneous noiſe was very much augmented, having never been ſo dreadful, nor ſo frequent as that day and the following. The burſts of it, like a general diſcharge of the artillery of an army, were repeated ten or twelve times in four and twenty hours, and immediately after each clap the large furnace threw up huge red-hot ſtones, which fell into the ſea at a great diſtance. Theſe claps were always followed by a thick ſmoke, which ſpread clouds of aſhes over the ſea and the neighbouring iſlands.

The 18th of September an earthquake was felt at Santerini, which did no great damage, but conſiderably enlarged the burning iſland, and gave vent to the fire and ſmoke in ſeveral new places. The claps were alſo more terrible than ever, and ſo violent, that one would have thought every houſe in Scaro muſt have been ſhaken to the ground; and in the midſt of a thick ſmoke, which appeared like a mountain, one might ſee and hear large pieces of rock thrown up with as much noiſe and force as bullets from the mouth of a cannon, and afterwards fall down upon the iſland, or into the ſea. One of the ſmall neighbouring iſlands was ſeveral times covered with theſe fiery ſtones, which being thinly cruſted over with ſulphur

gave a very bright light, and continued burning till that was consumed.

ON the 21st of the same month, after a dreadful clap of subterraneous thunder, very great lightnings ensued; and at the same instant the new island was so violently shaken, that part of the large furnace came tumbling down, and huge burning rocks were thrown to the distance of two miles or upwards. This seemed to be the last effort of the Volcano, and to have exhausted the combustible matter, especially as all was quiet for several days after: but on the 25th the fire broke out again with still greater fury; and amongst the claps there was one so terrible, that the churches of Santerini were presently filled with crowds of people, expecting every moment would be their last, and the castle of Scaro suffered such a shock, that the doors and windows both of that and the houses flew open. Thus the Volcano continued to rage during the remaining part of the year, and the month of January 1708; the large furnace, without one day's intermission, throwing out stones and flames, at least once or twice, but oftener five or six times a day.

THE 10th of February, in the morning, a pretty strong earthquake was felt at Santerini, which the inhabitants looked upon as a prelude to greater commotions in the burning island. Nor were they deceived in their expectation; for soon after the fire and smoke issued in prodigious quantities, the claps like thunder were redoubled, and nothing appeared but horror and confusion. Rocks of amazing bulk were raised up to a great height above the water, and the sea raged and boiled to such a degree, that it occasioned a general consternation. The subterraneous bellowings were heard without intermission, and sometimes in less than a

quarter

quarter of an hour there were six or seven eruptions from the large furnace. The noise of the repeated claps, the quantity of huge stones that flew about on every side, the houses tottering to their very foundations, and the fire, which now appeared in open day, surpassed all that had hitherto happened, and formed a scene astonishing beyond description.

THE 15th of April was remarkable for the number and violence of the bellowings and eruptions, by one of which near a hundred large stones were thrown up all together in the air, and fell again into the sea at about two miles distance. From this time to the 23d of May (the anniversary of the birth of the new island) things continued much in the same state, but afterwards the fire and smoke subsided by degrees, and the subterraneous thunders grew less terrible.

ON the 15th of July our author, accompanied by the Latin bishop of Santerini, and some other ecclesiasticks, hired a boat to take a near view of the island, and to land upon it if they found it practicable. They made directly towards it on that side where the sea did not bubble, but where it smoked very much. Being got into this vapour, they perceived a close suffocating heat, and found the water very hot; whereupon they directed their course towards that part of the island, which was fartheſt distant from the large furnace. The fires, which still continued to burn, and the boiling of the sea, obliged them to take a great compass, and yet they felt the air about them very hot and sultry. Having coasted round the island, and surveyed it carefully from an adjacent one, they judged it to be two hundred feet above the sea, about a mile broad, and five miles in circumference; but not being thoroughly satisfied with

this view of it, they resolved to attempt once more to land, and accordingly rowed towards that part of the island where no fire or smoke had been perceived: but when they had got within a hundred yards of the place, the great furnace discharged itself with its usual fury, and the wind blew upon them a thick smoke and a shower of ashes, which obliged them to quit their design. Having retired a little, they let down a plummet, and had ninety-five fathom water without finding the bottom, the line not being long enough. Being returned to Santerini, they observed that the heat of the water had melted most of the pitch from their boat, which was therefore grown very leaky.

FROM this time till the 15th of August, when F. Goree left Santerini, the fire, smoke, and noise continued pretty moderate; and by the accounts he received from thence for several years afterwards, it appears that the island still increased, but that the fire and subterraneous noise were very much abated: and our author supposes, as there is no likelihood that the fire will make itself a passage at the bottom of the sea, so as to let in the water to extinguish it, that the Volcano will not have an end, till the mine of sulphur that feeds it be entirely consumed *.

To

* As strange as it may seem, that islands should be raised from the bottom of the sea, the instance we have here given is unquestionably true; and some are of opinion, that Santerini itself originally emerged above the waves in the same manner. Other islands have undoubtedly been rent and separated from the continent by violent storms, inundations, and earthquakes; to some of which causes perhaps our own island owes its formation: and it is observed, that the East-Indies, which abound in islands more than any other part of the world, are likewise most annoyed with tempests, lightning, volcano's, earthquakes, &c.——Varenius supposes, that St. Helena, Ascension, and other steep rocky islands, were

To this surprising phænomenon, on which we have dwelt so long, we cannot forbear adding a brief account of another in the Archipelago, which has been taken notice of in all ages, as one of the greatest wonders in nature, viz. the irregular flux and reflux of the Euripus, a famous streight, dividing the island of Negropont (anciently Eubœa) from the continent of Greece. This channel is

were formed by the sea's overflowing their neighbouring champaigns; and those of Zealand, Japan, &c. he thinks proceeded from the heaping up of vast quantities of sand and other terrestrial matters. Sumatra, Ceylon, and most of the East-Indian islands, he thinks were rent off from the main land, and concludes, that the islands of the Archipelago were formed in the same way; to which he imagines, that Deucalion's flood might possibly contribute.—But not to dwell upon conjectures, we shall add another yet more recent instance than that already given, of an island raised out of the sea by subterraneous fires, as we find it related in the Philosophical Transactions. On the 10th of December 1720, John Robinson, master of a small vessel from Piscataqua in New England, arrived at Tercera, one of the Azores; and sailing from thence December the 18th, the next day about two o'clock he made an island all fire and smoke. The following night the ashes fell on his deck like hail or snow, upon which he bore from the island, the volcano roaring as loud as great guns or thunder. At break of day he stood towards it again, and sailed round it so near, that the fire and matter it threw out had like to have done him damage; and being also in danger of driving ashore, the consternation was such, that all on board betook themselves to prayers: but a small gale springing up, carried them clear, and they stood away for Tercera. The governor there informed them, that the fire broke out in the night of the 20th of November preceding, being accompanied with a prodigious noise and an earthquake, which shattered several houses in the town of Angra, the chief of Tercera, as well as in the neighbouring villages. Vast quantities of pumice-stones and half-broiled fish were found floating on the sea for many leagues round the island, and abundance of sea-fowl hovering about it.—Having been thus particular on these extraordinary commotions of nature, we shall have occasion to say the less on the subject when we come to treat of other parts of the world.

ſo narrow, that the chief town of the iſland, called Egripos by the modern Greeks, has a communication with the main land by a ſtone bridge of four or five arches, and a draw-bridge juſt wide enough for a galley to paſs through; in this part therefore the inconſtancy of its tides is the moſt eaſily diſcerned. Theſe tides are ſometimes regular and ſometimes irregular, which F. Babin, who obſerved them very particularly, attributes partly to the ſituation of certain gulphs on each ſide of the ſtreight, though he allows the moon to be the principal cauſe. From the three laſt days of the old moon to the eighth of the new the tides are regular; the ninth they become irregular, and continue ſo till the thirteenth incluſively; the fourteenth they are irregular again, and remain ſo till the twenty-firſt, from whence they are irregular to the twenty-ſeventh. When the tides of the Euripus are regular, they flow twice in four or five and twenty hours, as in the ocean, and ebb as often, loſing near an hour every day, and are about as long coming in as going out: but during the time of their irregularity they commonly flow and ebb nine or ten times in twenty-four hours, unleſs the wind blows hard, and even then ſix or ſeven; nay, our author himſelf, in the ſpace of an hour and a half, ſaw the water change its courſe three times, though the wind was pretty ſtrong againſt it. The tides of this channel uſually riſe a foot or a little more, ſeldom reaching to two feet; and between the flux and reflux the water ſeems to ſtand ſtill for a ſhort time, inſomuch that feathers or ſtraws cannot be perceived to move on its ſurface. From theſe obſervations of father Babin, it is eaſy to reconcile the authors who have written ſo differently on the Euripus; for thoſe who mention no more than two fluxes

fluxes and refluxes in twenty-four hours, as in the ocean, have only obſerved its motion during the days of its regularity: nor have the ancients delivered a falſhood, in ſaying there are ſeven reciprocations in one day, for that happens even when the winds trouble and retard the flood; and the father aſſures us, that in ſtill weather the tides ſometimes ebb and flow twelve or fourteen times in the ſpace of four or five and twenty-hours, as he himſelf had obſerved, and was told by the millers, who ſee their wheels change according to the courſe of the water *.

* The phænomena of the tides, which are really aſtoniſhing, and have perplexed the greateſt philoſophers, are well explained by Dr. Halley, from the Newtonian principle of gravitation and attraction, whereby on the earth all bodies have a tendency towards its centre, and are alſo attracted towards the ſun, moon, and other planets. If the earth were not affected by the action of the ſun and moon, it is not to be doubted but the ocean, being equally preſſed by the force of gravity towards the centre, would continue in a perfect ſtagnation, always at the ſame height, without either ebbing or flowing; but it being demonſtrated, that the ſun and moon have a like principle of gravitation towards their centres, and that the earth is within the activity of their attraction, it plainly follows, that the equality of the preſſure of gravity on the earth muſt be diſturbed, and the ocean, being fluid and yielding to the leaſt force, ſhews by its riſing where it is leſs preſſed, and where it is more preſſed by its ſinking. Now the moon being very near the earth, in compariſon of the ſun and other heavenly bodies, our tides are chiefly regulated by its motions; and accordingly we obſerve, that the ſea flows (as we call it) as often as the moon cuts the meridian, whether above or below the horizon; and ebbs when ſhe paſſes the horizon, both in the eaſtern and weſtern point: but as the moon is twelve hours twenty-four minutes in paſſing from the ſuperior to the inferior meridian, ſo every tide of flood is four and twenty minutes later than the preceding one; and thus we have two fluxes and two refluxes every five and twenty hours. The high ſpring tides upon the new and full moons are occaſioned by the attraction of the ſun conſpiring with that of the moon,

WE ſhall conclude this article with obſerving, that tho' the Mediterranean has no ſenſible tides, except ſome ſmall ones in the gulf of Venice, that of the Euripus abovementioned, &c. yet a ſtrong current continually ſets into it from the ocean through the ſtreights of Gibraltar, and likewiſe through the Helleſpont from the Euxine and the Propontis; whence one would imagine, that inſtead of not ſwelling like the ocean, it ſhould rather overflow its bounds, and drown the adjacent countries. What becomes of the vaſt quantity of

moon, whereas in the quarters the tides are weaker, becauſe the ſun raiſes the water where the moon depreſſes it, and on the contrary. The reaſon why the ſun's attraction has no greater influence on the tides, notwithſtanding he is ten thouſand times bigger than the earth and moon, is owing to the very ſmall proportion the ſemidiameter of the earth bears to his immenſe diſtance. It is alſo obſerved, that the equinoctial ſpring-tides in March and September are the higheſt, and the nep-tides the loweſt of all others; for the nearer the moon approaches the poles, the leſs is the agitation of the ocean, which is greateſt of all when the moon is in the equinoctial, or fartheſt diſtant from the poles; whence the ſun and moon being either conjoined or oppoſite in the equinoctial produce the greateſt ſpring-tides, and the ſubſequent nep-tides are always the leaſt, being produced by the tropical moon in the quarters.—But beſides theſe general tides, which would happen regularly every where, if the earth were all covered with a deep ſea, there are many others in which we find a vaſt diverſity, and not to be accounted for, without an exact knowledge of all the circumſtances of the places, as the poſition of the land, the ſhallowneſs of the water, the narrowneſs of the channels, &c. for the tide is always found to ſet ſtrongeſt where the ſea is narroweſt, the ſame quantity of water being in that caſe to run through a ſmaller paſſage. This is evident between Portland and Cape la Hogue in Normandy, where the tide runs like a ſluice, and would be yet ſtronger between Dover and Calais, if it were not checked by the tide coming round the iſland. In ſhort, every thing relating to the tides is to be accounted for from the Newtonian doctrine; as why lakes, ſuch as the Caſpian ſea, and midland ſeas, ſuch

of water thus poured into the Mediterranean, is a ſpeculation that has long employed the philoſophers. Dr. Smith accounts for it, by ſuppoſing an under current to carry off as much water as the upper one brings in; and ſuch currents it is probable there are in ſeveral parts of the ſea: but Dr Halley, without having recourſe to this hypotheſis, ſolves the phænomenon from the great evaporation. The reſult of an experiment made by this excellent author to find the quantity of vapour raiſed from the ſea by the action of the ſun, was this, that the thickneſs of water evaporated from the ſurface of the ſea in ſummer, is one fifty-third part of an inch in the ſpace of two hours; which, for the eaſe of calculation, being ſuppoſed only a ſixtieth part, the quantity exhaled in twelve hours will be one tenth of an inch. On this principal every mile ſquare will be found to evaporate, in twelve hours, 6914 tuns of water; and every ſquare degree, ſuppoſed of 69 Engliſh miles, will evaporate thirty-three millions of tons. Now the area of the Mediterranean being eſtimated at 160 ſquare degrees, it will loſe in vapour in a ſummer's day 5280 millions of tons;

ſuch as the Baltic, the Black Sea, and the Mediterranean, have ſcarce any ſenſible tides; for lakes, having no communication with the ocean, can neither increaſe nor diminiſh their water, ſo as to riſe or fall; and ſeas that communicate with it by ſuch narrow inlets, and are of ſuch a vaſt extent, cannot in a few hours receive or empty water enough to raiſe or ſink their ſurface in a ſenſible manner. To conclude, Sir Iſaac Newton accounts for the ſtrong tides in the port of Tonquin in China, (where there is but one flood and ebb in 24 hours, and none at all when the moon is near the equinoctial) from the concurrence of two tides, the one out of the great South Sea, the other out of the Indian Sea between the iſlands; and as the appearance of theſe tides are naturally deducible from his principles, it is a great argument of the truth of his whole theory.

and yet this quantity of vapour, great as it is, is only the remains of what is raised another way, viz. by the winds, which sometimes sweep off the water faster than it is exhaled by the heat of the sun. As to the quantity of water the Mediterranean receives, the Doctor supposes the Ebro, Rhone, Tyber, Po, Danube, Niester, Boristhenes, Tanais, and Nile, to furnish each of them ten times as much water as the Thames; not that any of them are in reality so great, but so to allow for the lesser rivers that fall into it: and as the Thames is computed to evacuate daily 20,300,000 tuns of water, the nine rivers abovementioned will only evacuate 1827 millions of tuns in a day, which is little more than a third of what is raised in that time in vapour. To this vast store of vapours raised by the sun, winds, or subterraneous fires, from the sea, lakes, rivers, &c. the Doctor refers the origin of springs. This account will also serve to explain why the Caspian sea, into which many vast rivers discharge themselves, and which has no visible outlet, does not overflow its banks; and shew why the Almighty has placed spacious lakes in many other countries, at a distance from the sea. Were it not for these bodies of water that supply the clouds with rain, such countries would have no refreshing showers; the reservoirs in the hills and mountains, which gush out in springs, that uniting their streams, form rivers, would soon fail: water would be in a manner unknown; vegetation would cease, and many regions of great extent, now remarkable for their fertility, would become barren and desolate.

FOSSILS.

FOSSILS.

THE Turkiſh dominions in Europe being very extenſive, and the ſoil various, afford a great quantity of uſeful foſſils, and ſome mines of the richer metals. Near Siderocapſa, a town of Macedonia, lying north eaſt of Solonichi, mines of gold were diſcovered in the time of Philip, the father of Alexander the Great, from whence the town was anciently called Chryſitis. Theſe mines are ſtill wrought, and Martiniere tells us, the Grand Signior receives from them ten thouſand ducats every month.—Argentiere, formerly Cimolus, a little iſland in the Archipelago, takes its modern name from its mines of ſilver, which were once wrought; and M. Tournefort informs us, that the workhouſes and furnaces where they uſed to prepare the metal are ſtill to be ſeen, but at preſent the inhabitants dare not meddle with that ſort of work without leave of the Turks, who would make it a pretence for loading them with heavy taxes.—Siphanto, another iſland of the Archipelago, was anciently famous for its mines of gold and ſilver; but the places where they were are now ſcarce known to the inhabitants. The iſland however abounds with lead, according to M. Tournefort, who tells us, that about the middle of the laſt century ſome Jews came thither, by order of the Porte, to examine into the mines; but the natives, fearing they ſhould be forced to work them, bribed the captain of the galliot that brought over the Jews to ſink his veſſel, which he accordingly did, by boring holes in it while the Jews were aboard, who all went to the bottom with a cargo of ore, whilſt the captain ſaved himſelf in his long-boat. After this, ſome other Jews

were ſent on the like errand, but met with no better ſucceſs; for the Siphantines gave a ſum of money to a French corſair to cannonade and ſink the galliot when ſhe had got her lading: ſo that both Jews and Turks gave over their enterprize.

DIVERS parts of Greece, and ſeveral iſlands in the Archipelago, abound with excellent marble, though many of the quarries ſo famous in antiquity are now loſt or exhauſted. Our countryman Mr. Wheeler mentions a Greek nonaſtery called Penteli, ſituated under a mountain of the ſame name, which he ſays is a perfect rock of white marble. Here he obſerved many curious grottos, lined with beautiful congelations, which are not uncommon in ſuch places; and at a little diſtance he ſaw the quarries, from whence vaſt quantities of marble had been dug for the fineſt ſtructures in Athens; which made him no longer doubt but this was the mountain Pentelicus, ſo often mentioned by Pauſanias on account of its marble.—Almoſt every one knows how famous the iſland of Paros has ever been for its beautiful marble, which is more frequently taken notice of in the writings of the ancients than any other kind, and was chiefly uſed for ſtatues by the moſt celebrated ſculptors of antiquity. The Parian marble is of a firm, compact, and cloſe texture, conſiderably heavy, and of a very elegant white, but generally with ſome admixture of a faint blueiſh caſt, and frequently veined with blue ſtreaks of different breadth. It is extremely bright and glittering, and capable of the brighteſt poliſh of all the marble claſs; which, together with its not being very difficult to cut, has made it a favourite kind among our modern as well as among the ancient ſtatuaries. Being principally uſed by thoſe artiſts, we now know it under the name of Statuary-Marble; and yet

M. Tour-

M. Tournefort affirms, that the beſt judges prefer the Italian to the Grecian marble, which gives falſe lights, and flies in little bits if not cautiouſly managed, whereas that of Italy obeys the chiſſel, being of a much finer and cloſer grain. To the iſland of Paros we are indebted for one of the nobleſt monuments of antiquity in the world, viz. the Arundel Marbles, which are now preſerved in the univerſity of Oxford, as was mentioned towards the beginning of this work *.

THE iſland of Milo is remarkable for its hot ſprings, and the iron, alum, and ſulphur with which it abounds. The ſulphur of Milo was eſteemed by the ancients, being particularly commended by Pliny and Dioſcorides. M. Tournefort ſays it is very beautiful, having a greeniſh ſhining caſt, and is found in lumps by digging up the ground, and in large veins in the quarries where they get their mill-ſtones. There are in the iſland ſeveral mines of alum, the entrance into which is narrow, and the vaults or chambers ſcarce high enough for a man to ſtand upright. Here the alum grows in a ſort of flakes about an inch thick, and as theſe are taken away, new ones in a ſhort time ſupply their places. But the greateſt curioſity this iſland affords is the Plumoſe or Feathered alum, ſo called from its form, being an efflorescence of alum, compoſed of ſtrait parallel threads or fibres reſembling the veins of a feather †. The pieces of this alum, in the caverns

* See Vol. I. p. 96.

† This is the true Alumen plumoſum of the ancients, and what the Greeks called Schiſton or Trichitis, from its ſplitting into a number of whitiſh hairs or capillaments. It has been ſtrangely confounded, even by ſome who have profeſſedly written on drugs, with a ſpecies of the Lapis Amiantus; and this ſtone is at preſent known in the ſhops under the name of Alumen Plumoſum, though it has neither the taſte, nor any one

verns where they have reſt and room enough to ſhoot, are found an inch and a half or two inches in length, and as thick as one's finger; and are of the ſame kind, but larger, with the fibrous efflorescences found on the ſurface of Iriſh ſlate, and other alum-ores of our own country. Beſides the feathered alum, the caverns of Milo, whoſe roofs, ſides, and floors are all of alum-ore, afford us a liquid alum, that is, a ſtrong ſolution of alum in water: for the vapours ſent up continually from the inner parts of the earth are condenſed in theſe caverns into drops, which, as they fall from the roofs and trickle down the ſides, waſh off and diſſolve the plumoſe efflorescences, and are collected in the cavities of the floor in little puddles, which are ſometimes ſo highly ſaturated with this ſalt, as to be white and milky, and ſometimes leſs ſated, and clear as common water. In both caſes, however, the water contains a great quantity of alum in a fluid ſtate; and this is undoubtedly the origin of what ſome have ſuppoſed to be a native liquid alum. This ſolution is much more acrid than that of common alum; and M. Tournefort tells us, that when the natives of Milo are troubled with the itch, they go and ſweat in ſome of their warm grottos, foment their ſkin with this aluminous liquor, and then waſh themſelves in the ſea, which generally effects a cure.

one of the qualities or properties of alum. It is therefore happy for us, as Dr. Hill obſerves, that our phyſicians have forgot to preſcribe the Alumen plumoſum, ſince the apothecaries would certainly uſe the Amiantus inſtead of it; and how improper the latter muſt be for internal uſe, may be judged from its effects when applied externally, its ſpiculæ making their way into and lodging themſelves in the ſkin, and occaſioning ſwellings, with the moſt violent and intolerable itching.

THE ſame ingenious author accounts for the formation of alum and ſulphur in the iſland of Milo in the following manner. He obſerves, that the iſland is almoſt entirely a hollow rock, ſpungy, and ſoaked, as it were, with the ſalt water of the ſea, which enters into a multitude of openings on the coaſt, and is thence conveyed to the minuteſt cavities. Here he ſuppoſes, the ſea-ſalt undergoes a ſort of chymical proceſs, the ſubterraneous fires, which are continually burning in this iſland, cauſing an acid ſpirit to ſeparate from the ſalt, not unlike that we draw from ſea-ſalt by common fire. This acid gradually penetrating the hardeſt rocks, diſſolves them, incorporates with them, and is converted into alum; in like manner as we ſee ſpirit of ſalt, when poured upon common ſtones or chalk, produces aluminous concretions. The ſame acid ſpirit, mixed with the bituminous matter that pervades the veins of the earth, occaſions the formation of ſulphur; for it is well known that ſulphur is a fat ſubſtance fixed by an acid ſpirit; and the ſea-water contains oily as well as ſaline particles, both which are ſtrained from it by the ſingular ſtructure of the interior parts of the iſland.

EMERY, according to M. Tournefort, is found in great plenty in the iſland of Naxia, where he ſays, they turn it up as they plough the ground, and ſell a quintal of it for a crown, their quintal being a hundred and forty pounds. This mineral is extremely hard and very heavy, and the conſumption is conſiderable amongſt armourers, cutlers, ſmiths, glaſs-grinders, lapidaries, maſons, and other artificers, being uſed in poliſhing and burniſhing iron and ſteel works, and in cutting glaſs, marble, and precious ſtones. Dr. Hill takes

takes it to be nothing but an iron ore, and to have a near relation to the magnet; neither of them, though usually supposed distinct natural bodies, being properly so, any more than any other of the ores of metals. It is found in masses of no determinate shape or size, and is usually of a dusky browniſh red on the surface, but when broken is of a bright iron-grey, though not without some tinge of redness, and is spangled all over with shining specks, which are small flakes of talc highly impregnated with iron. Sometimes it is very red, and contains veins of gold; but this is rarely to be met with. The sort that is commonly used is found in the island of Guernsey, Tuscany, and many parts of Germany.

THE island of Argentiere (formerly Cimolus) abounds with a heavy, crumbly, whitish kind of earth or marble, the Terra Cimolia of the ancients. It is also found in other islands of the Archipelago, and generally lies either on the surface or a little below it, being moderately moist, but not at all tough or viscid. It is easily cut through with the spade, which leaves it rough and uneven, and often breaks it into rude irregular pieces. When dried it becomes of a pure bright white, and of a closer texture. It is very soft to the touch, is easily broken between the fingers, adheres firmly to the tongue, and melts readily in the mouth, but leaves a considerable grittiness between the teeth. This marle, being fattish and soapy, is used by the inhabitants of the island in washing of linen; and Pliny mentions its being used by the ancients in cleaning of cloths. They likewise used it in medicine, but it has little share in the modern practice.—What we call Cimolia alba is the white tobacco-pipe clay, from which

that

that of the ancients is eaſily diſtinguiſhed, by its want of tenacity and its alkaline quality; and to our fuller's-earth we have given the name of Cimolia purpuraſcens, whereas the ancient purple Cimolia was in all probability the Steatites or Soap-Rock, as we commonly call it, which is a hard white clay with veins of purple, not only found in the iſlands of the Archipelago, but plentifully in many parts of Cornwall and Devonſhire.

THE Lemnian earth, ſo called from its being dug in the iſland of Lemnos, deſerves to be mentioned on account of the great reputation it has had in all ages for its medicinal virtues. There are three ſorts of this earth, viz. white, yellow, and red, of which the laſt is moſt eſteemed. It is a heavy, cloſe, compact earth, of a regular texture, and pale red colour; of a ſmooth and even ſurface, but not gloſſy; melts ſlowly in the mouth, and has an aſtringent taſte, but leaves ſome grittineſs between the teeth; does not ſtain the hands, nor break readily between the fingers. As this earth is found no where but in Lemnos that we know of, ſo the true medicinal red ſort is only dug out of one pit, in which it conſtitutes the lower ſtratum, lying underneath the yellow. This pit is opened only once a year, and that with great ſolemnity, the Greek prieſts rehearſing ſome forms of prayer, at which all the conſiderable inhabitants of the iſland, both Greeks and Turks, are preſent. At that time they take out as much as they think ſufficient for the year's demand, the greateſt part of which is ſent to Conſtantinople to the Grand Signior, with whoſe ſeal it is marked; and the reſt is ſold to merchants upon the ſpot, partly ſealed, and partly unſealed; but thoſe who buy it rough generally get it ſealed before they offer

fer it to ſale. That ſealed in the iſland has uſually ſome Arabic characters upon it, and on the other we often find a creſcent and three ſtars, the inſcription Terra Lemnia, and under it two palm-branches: but notwithſtanding this and other earths are generally imported to us ſealed, they are liable to many adulterations, and none of them more ſo than the Lemnian, which is ſo often counterfeited and ſophiſticated, both here and by the Turks themſelves, that few people, except thoſe who have ſeen it dug out of the pit, are able to diſcover the impoſture.—This earth yields a ſmall quantity of volatile urinous ſalt, of another not much different from ſea-ſalt, and of a bituminous oil; ſo that it is not a mere dead earth, endued with no other quality but that of an abſorbent, as ſome of the moderns have imagined. It is good in dyſenteries, diarrhœas, and hæmorrhages; is an admirable diaphoretic, and uſeful in malignant fevers.

THERE is another kind of earth called Turky Earth, which is ſometimes ſold inſtead of the Lemnian, but it is not of ſo compact a texture, though it is conſiderably heavy. It breaks eaſily between the fingers, and is reddiſh on the ſurface, but more of an aſh-colour within. Great plenty of it is dug in the neighbourhood of Adrianople, and it is uſed by the Turks as a ſudorific and aſtringent, and is famous among them in peſtilential diſeaſes.

WE might here enumerate ſeveral other foſſils of the like nature, but we apprehend the reader would not thank us for enlarging on ſo inſipid a ſubject; and therefore we ſhall only add, another which Mr. Wheeler tells us is dug out of a hill near Thebes, in the road that leads to Negropont. This is a ſtone, as he calls it, (perhaps a kind

kind of clay) which, when firſt taken out of the pit is of the colour of new cheeſe, and almoſt as ſoft, but when it is dry, it becomes very hard, gloſſy, and as white as ſnow. The people of Thebes carve this ſtone very curiouſly into bowls for tobacco pipes, the beſt of which are ſold for five-pence or ſix-pence a-piece, and a worſe ſort at about half that price.

VEGETABLES.

AMONGST the many curious plants to be found in the Turkiſh dominions, which afford the botaniſt a very ample harveſt, none ſeems to deſerve our attention more than the Tragacantha, or Goat's-Thorn, which grows plentifully in ſeveral parts of the Levant, and particularly on mount Ida in Candia. The gum we corruptly call Gum Dragon, iſſues ſpontaneouſly from this plant towards the end of June and the two following months, at which time the nutritious juice, thickened by the heat, burſts the veſſels that contain it; and being coagulated into ſmall threads, theſe make their way by little and little through the bark, are hardened in the air, and formed either into lumps or ſlender pieces twiſted like worms, of different lengths, according to the quantity of extravaſated matter. The contraction of the fibres of the plant, M. Tournefort ſuppoſes, may contribute to the expreſſion of the gum; for theſe delicate fibres, like thoſe of flax, being laid bare and trampled under foot by men and beaſts, are ſhrivelled by the heat, and facilitate the emanation of the extravaſated juice.—This gum is of different colours, ſome white, ſome greyiſh, ſome red, and ſome almoſt black; but that which is white, clear, ſmooth, and twiſted like worms, is reckoned

reckoned the beſt. Externally uſed it is efficacious in a dyſentery, and diſſolved in milk or roſe-water is good for the redneſs and acrimonious humours, affecting the eyes, and for aſperities of the eyelids. It is of ſervice in a hoarſeneſs, ſpitting of blood, and the ſtrangury; and four or ſix grains of it, exhibited in milk or water, are effectual againſt voiding of blood by urine. It is alſo reckoned ſtrengthening in ſeminal weakneſſes.

THE iſland of Candia likewiſe affords plenty of the Ciſtus ladanifera, (the Ledon of Dioſcorides) a ſhrub yielding an odoriferous ſort of gum called Ladanum, which oozes out of the leaves like a fatty dew, in ſhining drops, as clear as turpentine. This ſhrub is full of branches, and riſes to the height of two or three feet, bearing a flower an inch and a half in diameter, conſiſting of five roſe-coloured leaves, marked with a yellow ſpeck in the middle. From the centre of theſe leaves ariſe a great many yellow threads or chives, which ſurround the piſtil; and when the flower is gone the piſtil is changed into a fruit or cod, containing abundance of ſmall angular ſeeds, of a red colour, and diſpoſed in five different veſſels or apartments. The chief branches of this ſhrub are about the thickneſs of one's little finger, and are divided into ſprigs, bearing leaves that grow by couples, of a dark green, and waved at the edges. The gum iſſuing from the Ciſtus is gathered in hot calm weather, in the months of July and Auguſt, by bruſhing it off the leaves with a ſort of whip, compoſed of a great number of laſhes or ſtraps, to which the ladanum ſticks when they are dragged over the ſhrub, and from whence it is afterwards ſcraped and made up into a maſs or cakes of different ſizes. Dioſcorides tells us, that in his time they uſed to comb

off

off the ladanum from the beards and thighs of the goats which fed upon the leaves of the Ciſtus; but it is now gathered in the manner above-mentioned, as M. Tournefort relates, who ſaw the country people employed about it, and ſays, the work is rather unpleaſant than laborious, as it muſt be done in the heat of the day, and when there is no wind ſtirring, and yet the pureſt ladanum is not free from filth, becauſe of the duſt blown upon it in windy weather. Beſides this, to increaſe its weight, they have a trick of mixing it with a fine blackiſh ſand; which cheat is diſcovered by chewing it, or ſtraining it after it is diſſolved.—This gum mollifies, digeſts, maturates, and attenuates; and externally applied is good againſt the tooth-ach, heartburn, hyſteric fits, and pains of the ſtomach. In dyſenteries and hoarſeneſs it is an excellent balſamic.

WE have another gum obtained from a plant called Panax Herculea, a ſort of All-heal, which grows plentifully in Achaia, Bœotia, and other parts of Greece, and may be ſeen in the gardens of the curious. From inciſions made in the ſtem of this plant, eſpecially near the root, during the ſummer-months, a juice flows which concretes ſpontaneouſly, and is called in the ſhops Opopanax. If good, it is externally of a yellow colour, but internally white, or ſomewhat inclining to yellow, of a bitter taſte, a ſtrong ſmell, and pinguious conſiſtence.—As to its virtues, it mollifies, digeſts, diſcuſſes flatulencies, and purges thick and viſcid phlegm from the brain, nerves, joints, and thorax. The roots are alſo ſaid, by thoſe who import them, to be effectual in all cold affections of the brain and nerves, diſorders of the breaſt, and violent pains of the ſtomach; for obſtructions of the viſcera, and diſeaſes of the womb, bladder

der and kidneys; on which account they are of ſervice in inveterate pains of the head, vertigo, epilepſy, lethargy, convulſions, palſies, aſthma, jaundice, and dropſy.—This is one of the celebrated Panaceas of the ancients, to which they attributed ſuch wonderful virtues.

WE ought not here to omit taking notice of a very uſeful production of the vegetable kind, viz. the Cotton-Buſh, which is an annual plant, cultivated in Greece, and in ſeveral of the iſlands of the Archipelago, as well as in many parts of Aſiatic Turky, the Eaſt-Indies, and other countries. This plant grows as high as a roſe-buſh, has leaves like maple, and puts out yellow flowers, which leave behind them little cods, that increaſe as they ripen to the ſize of a walnut, and being opened by the heat of the ſun, diſcover a down of exceeding whiteneſs, which is the cotton. The down encompaſſes ſeveral little beans, which are the ſeeds of the plant, and are ſeparated from the down by a ſort of mill, which being worked by the motion of a wheel, the cotton falls on one ſide, and the ſeed on the other. There is alſo another kind of cotton-plant, called by botaniſts Goſſipium herbaceum, which creeps along the ground as the vine would do if unſupported; and the cotton of this is the moſt eſteemed.—Cotton makes a conſiderable article in commerce, being ſpun and manufactured into ſtockings, waiſtcoats, quilts, tapeſtry, curtains, and various other conveniences. Muſlins are made entirely of cotton, and it is frequently mixed with wool, ſilk, and flax, in the compoſition of other ſtuffs. Abundance of cotton grows about Smyrna, from whence ten thouſand bales are annually exported, and as much at leaſt is ſpent in the manufactures of the country.—As to the medicinal virtues of cotton,

the

the ſeeds of it are reckoned good in diſorders of the kidneys and liver, but prejudicial to the head and ſtomach. They are alſo eſteemed excellent for a cough or difficulty of breathing, and are ſerviceable in the ſtone and dyſentery; for by their lenitive quality they obtund the acrid and exulcerating humours. The oil expreſſed from the ſeed removes ſpots of the ſkin, and cures running ſores of the head; and they are likewiſe ſaid to reſtrain immoderate fluxes of the menſes. The wool burnt and reduced to powder is ſometimes put into wounds to ſtop the effuſion of blood *.

ANIMALS.

THERE is a great variety of the feathered ſpecies which frequent the iſlands of the Archipelago and the coaſts of Greece, but none of them more remarkable than a ſort of ſea fowl called Toubana by the modern Greeks, and thought by M. Spon to be the Onocrotalis of Pliny. This bird is what we call a Pelican, and is deſcribed by Sir George Wheeler, who took one of them near Lepanto, to be as big as a ſwan, (but its neck not ſo long) web-footed, and of a greyiſh colour, like a common gooſe. It has a beak ſeventeen or eigh-

* It is obſerved that cotton applied to wounds, inſtead of linen, produces an inflammation. M. Leewenhoeck, examining into the reaſon of this with a microſcope, found its fibres to have each two flat ſides; whence he concluded, that its minute parts have two acute angles or edges, which being not only more thin and ſubtile than the globules whereof the fleſhy filaments conſiſt, but alſo more firm and ſtiff, they hurt and wound the globules of the fleſh, and cut the new matter that approaches them; and that with the more eaſe, as this matter, not having attained the firmneſs and conſiſtence of fleſh, is the leſs able to reſiſt their attacks: whereas the linen ordinarily uſed in wounds, being compoſed of little round parts, very cloſe to each other, form larger maſſes, and is thus incapable of injuring the fleſhy globules.

teen

teen inches long, and about two inches broad where wideſt; but when it opens, the under part of the beak, being of a flexible nature, expands itſelf to the breadth of five or ſix inches. To this beak, near the entrance of the throat, is joined a bag of a ſkinny ſubſtance, which, when it is empty, and the bird's mouth ſhut, ſhrinks together like a bladder before it is blown, and is ſcarce to be ſeen; but when filled it ſtretches to an incredible bigneſs, ſo as to contain ten or a dozen quarts of water. In theſe bags (as the Greeks informed our author) the pelicans carry fiſh and water to their young ones in the mountains where they breed, for which purpoſe they chuſe the moſt unfrequented places. The throat of this fowl is large enough to ſwallow a carp twelve inches long; and the upper part of its beak terminates in a ſharp hook, which perhaps is of ſervice to it in catching fiſh, on which it chiefly ſubſiſts. Its gizzard is not a round fleſhy ſubſtance, like that of other fowls, but ſomewhat harder than the guts, about ſix inches long, and above an inch in diameter. Its lungs are of a membranous texture, ſticking faſt to the ribs on each ſide, and of a reddiſh colour.—The pelican is ſaid to live to a great age; and ſome ſay there are two ſorts of pelicans, the one feeding on fiſh, (which is that here deſcribed) the other a land fowl, feeding on venomous creatures.

SIR George Wheeler has likewiſe given us a deſcription of a Tree-Frog, or Spordaca, as the Greeks call it, which he ſays is ſhaped like other frogs, but ſomething ſmaller, and of a deep green colour. When it lies cloſe to the ground, it reſembles one half of a large walnut with the convex part uppermoſt; for then its feet are ſo doubled underneath it as not to be diſcerned. In nature,

ture, however, it is very different from the common frogs; for whereas these love to be always amongst the grass or in the water, this kind delights to climb shrubs, bushes, and trees, and to sit chirping on the twigs and branches. For this purpose nature has made a peculiar provision, its toes ending in little round knobs, about the bigness of a pin's head, out of which issues a clammy substance, that often preserves it from falling when it leaps from one bough to another; for if it can but touch the smallest twig, or the smoothest leaf, with any one of its feet, it sticks fast to it by that viscous matter, and surprizingly recovers its whole body. This may seem incredible, but our author observed it very often, and could not perceive that the frog held by grasping with its feet, as birds and squirrels do, but merely by the strength of the glutinous substance discharged from its toes; which, however, we must suppose it can emit or retain at pleasure, or else it would prevent its leaping as well as falling. This creature, when put into the water would swim like other frogs, but never offered to dive, and made all possible haste out of that cold element.

As mount Hymettus in Greece was always famous for its excellent honey, the ancients imagining that bees were first bred there, and that the swarms dispersed over the world were only colonies from that mountain, we think this will be no improper place to give some account of those curious insects, so remarkable for their sagacity and œconomy, and whose labours are so advantageous to mankind.—With respect to their form, the bee is divided by two ligaments into three parts or portions, the head, the breast, and the belly. The head is armed with two jaws and a trunk, the former of which play like two saws,

ing and ſhutting to the right and left. The trunk is long and taper, and extremely pliant and flexible, being deſtined by nature for the inſect to probe to the bottom of flowers through all the impediments of their chives and foliage, and drain them of their treaſured ſweets. But were this trunk to be always extended, it would prove incommodious, and be liable to be injured by a thouſand accidents: it is therefore of ſuch a ſtructure, that, after the performance of its neceſſary functions, it may be contracted, or rather folded up; and beſides this, it is fortified againſt all injuries by four ſtrong ſcales, two of which cloſely ſheath it, and the two others, whoſe cavities and dimenſions are larger, encompaſs the whole.—From the middle part or breaſt of the bee grow the legs, which are ſix in number; and at the extremity of the paws are two little hooks, diſcernible by the microſcope, which appear like ſickles with their points oppoſite to each other. The wings are four, two greater and two ſmaller, which not only ſerve to tranſport them through the air, but, by the noiſe they make, to give notice of their departure and arrival, and to animate them mutually to their ſeveral labours. The hairs, with which the whole body is covered, are of ſingular uſe in retaining the ſmall duſt that falls from the chives of the flowers, of which ſome think the wax is formed, as will be obſerved hereafter.—The belly of the bee conſiſts of ſix rings, which ſlide over one another, and may therefore be lengthened or contracted at pleaſure: and the inſide of this part of the body contains the inteſtines, the bag of honey, the bag of poiſon, and the ſting. The office of the inteſtines is the ſame as in other animals. The bag of honey is tranſparent as cryſtal, containing the ſweet juices extract-

extracted from flowers, which the bee discharges into the cells of the magazine for the support of the community in winter. The bag of poison hangs at the root of the sting, through the cavity of which, as through a pipe, the bee ejects some drops of this venomous liquor into the wound, and so renders the pain more excessive. The mechanism of the sting is admirable, being composed of two darts, inclosed within a sheath that tapers into a fine point, near which is an opening to let out the poison. The two darts are ejected thro' another aperture, which, being armed with several sharp beards like those of fish-hooks, are not easily drawn back again by the bee; and indeed she never disengages them, if the wounded party happens to start, and put her into confusion; but if one can have patience to continue calm and unmoved, she clinches those lateral points round the shaft of the dart, by which means she recovers her weapon, and gives less pain to the person stung. The liquor, which at the same time she infuses into the wound, causes a fermentation, attended with a swelling, which continues several days; but that may be prevented by immediately pulling out the sting and enlarging the puncture, to let the venomous matter have room to escape.

LET us now consider the generation, polity, and labours of these insects, the true knowledge whereof is very much owing to the modern invention of glass-hives, through which all the secrets of the community are laid open to a curious observer. Any person who carefully examines a hive, at different seasons of the year, will distinguish three sorts of bees; of which the far greater number are the common working bees, who do all the business of the hive, and seem to be neither male nor female. The second sort, called

Drones, are the males, which are ſomewhat larger, have no ſting, nor ever ſtir from the hive, but live upon the honey prepared by the others. The third ſort is a much larger and longer-bodied bee, of which there is often but one in a hive, at leaſt but one in every ſwarm or colony of young bees, who are from time to time detached from the hive in ſearch of another habitation. This large bee is what the antients called the King, from the reſpect they always ſaw paid to it by the other bees; but being the female, the moderns more properly give it the title of Queen or mother of the ſwarm.

MR. Reaumur, deſiring to try how far the accounts given of the homage paid by the others to the queen-bee was true, cauſed a ſwarm of bees to be ſwept down into a glaſs-hive. Among theſe there was one female. She was ſoon diſtinguiſhed by her ſhape, and the ſhortneſs of her wings. For a while ſhe walked alone at the bottom of the hive; the reſt ſeeming to regard nothing but their own ſafety. The female, after going twice or thrice up the ſides of the hive, to the top of it, where they were hung, at laſt going in among the cluſter, brought down about a dozen with her. Attended with theſe, ſhe walked along ſlowly at the bottom of the hive. But the reſt continuing at the top, ſhe went again and again, till they all came down and formed a circle about her, leaving her a free paſſage wherever ſhe turned to walk, and feeding her with the honey they had gathered for themſelves.

WHILE the hive is ſufficient to contain the bees without inconvenience, the ſociety live peaceably together; but when their numbers are multiplied ſo that their habitation is too ſmall, the young brood quit the place of their nativity, (as

we

we have just hinted) and fly in quest of a new settlement. The swarm that goes out consists of the common bees, under the conduct of one female or queen; or if two queens come out of the same hive, then the body of common bees divides into two parts, each following one female: both parties, however, when they alight out of the air, usually settle near each other on a branch of a tree; and then those bees which form the smallest swarm go off, one by one, to the other cluster, deserting the queen they followed, who is at length murdered by her subjects. The swarm being thus united and hanging down from the tree, the countryman, who is always vigilant on these occasions, provides for their accommodation a hive rubbed with balm, thyme, and other odoriferous herbs, into which he gently brushes them from the branch, and carries them to a stand prepared for that purpose. All this the bees bear very patiently, and after they are a little composed, begin to think of forming themselves convenient apartments in their new habitation.

When they set about this work, it is observed they divide themselves into four bands, one of which is destined to the fields to provide materials for the structure; the second works upon these materials, and forms them into a rough sketch of the dimensions and partitions of the cells; the third band examines and adjusts the angles, removes the superfluous wax, polishes the work, and gives it its necessary perfection; and the fourth is employed in bringing provisions to the labourers. M. Maraldi takes notice, that the bees employed in polishing the combs work longer than those that build them, because polishing is not so laborious. They begin their work at the top of the hive, continuing it downwards to the

bottom, and from one side to another; and to make it the more solid, they use a sort of tempered wax, which is pretty much like glue. The form of the cells of the honey-comb is hexagonal, which figure, besides what is common with a square and equilateral triangle, has the advantage of including a greater space within the same surface *.

THE expedition of the bees in their labour is almost incredible; for, notwithstanding the elegance and just proportions of the work, they are so indefatigable, that in one day's time they will finish a honey-comb a foot long and six inches broad, capable of receiving three thousand bees. When the cells are compleated, the queen takes possession of those she likes best to deposit her eggs in, and the rest are left to be filled with honey. She lays one egg in each cell, and sometimes more than a hundred in a day; but what is most remarkable, as some affirm, she lays those eggs which are to produce common bees in cells of the common shape and size, those that are to become drones or males in larger cells, and in two or three great cells of a circular form, she deposits those which are to be females like herself. These eggs, having lain a short time in the cells, are hatched into white maggots, and are fed with honey for ten or twelve days, after which the other

* The best mathematician, as Dr. Derham observes, could not have chosen a more proper figure than the bees do for such a combination of apartments. Circular cells indeed would have been the most capacious; but this would by no means have been a convenient figure, because much of the room would have been taken up by vacancies between the circles. It was therefore necessary to make use of some of the rectilinear figures, amongst which the only proper ones were the triangle, the square, and the hexagon; and the bees (says Pappus Alexandrinus) wisely chose that figure which consisted of most angles, as supposing it the most capacious.

bees

bees close up the cells with a thin piece of wax; and under this covering they become gradually transformed into bees, in the same manner as silk-worms are into butterflies. Having undergone this change, the young bees pierce through their waxen doors, wipe off the humidity from their little wings, take their flight into the fields, rob the flowers of their sweets, and are perfectly acquainted with every necessary circumstance of their future conduct.—As to the males or drones, which are destined only to propagate their species, they live very comfortably for about three months after they are hatched; but when that time is over, and the females are impregnated, the common bees either kill them or drive them from the hive as burdensome to the community, and not a drone is to be found till the next season.

THE method in which the bees collect their wax and honey deserves to be a little explained. At the bottom of all flowers there are certain glands which contain more or less honey, that is, the most exalted particles of the sugary juices of the plant. These juices the bee sucks up with its proboscis or trunk above-mentioned, and draws it into its mouth; and when it has thus taken a sufficient quantity into its stomach, it returns to the hive, and discharges the honey into the common magazine. When the cells prepared to receive it are full, the bees close up some with wax till they have occasion for the honey; the rest they leave open, to which all the members of the society resort, and take their repast with a very instructive moderation *.

NATU-

* It is an excellent observation of a modern author, that the hive is a school to which numbers of people ought to be sent: prudence, industry, benevolence, publick-spiritedness,

NATURALISTS have generally ſuppoſed, that the fine duſt of the Apices of flowers, collected amongſt the hairs of the bee, which nature ſeems to have cloathed it with for that purpoſe, was afterwards converted into wax; and ſome of the moderns, as well as the ancients, have imagined wax to be the excrement of this laborious inſect: but the judicious Boerhaave takes it to be a juice iſſuing from the leaves of plants, and adhering to their ſurface, where it is inſpiſſated by the heat of the ſun, as may be ſeen in roſemary by the help of a microſcope. This the bees collect with their fore feet and jaws, and roll up into little balls, which they convey, one at a time, to the feet of their middle legs, and from thence to the middle joint of their hind legs, where there is a ſmall cavity, like a ſpoon, to receive the burden. When thoſe bees who are employed in collecting the wax return to the hive, they are aſſiſted by

oeconomy, neatneſs, and temperance, are all viſible among the bees. Theſe little animals are actuated by a ſocial ſpirit, which forms them into a body politick, immediately united, and perfectly happy. They all labour for the general advantage; they are all ſubmiſſive to the laws and regulations of the community; having no particular intereſt, no diſtinction, but thoſe which nature or the neceſſities of their young have introduced amongſt them. We never ſee them diſſatisfied with their condition, or inclinable to abandon the hive in diſguſt, at finding themſelves ſlaves or neceſſitous. On the contrary, they think themſelves in perfect freedom, and perfect affluence; and ſuch indeed is their real condition. They are free, becauſe they only depend on the laws; they are happy, becauſe the concurrence of their ſeveral labours inevitably produces an abundance, which contributes to the riches of each individual. Let us compare human ſocieties with this, and they will appear altogether monſtrous. Neceſſity, reaſon, and philoſophy, have eſtabliſhed them for the commendable purpoſes of mutual aid and benefits: but a ſpirit of ſelfiſhneſs deſtroys all; and one half of mankind, to load themſelves with ſuperfluities, leave the other deſtitute of common neceſſaries.

their

their companions in discharging their load, who by little and little pick off the wax from their legs, and carry it to the common treasure. With this they build their combs, observing a wonderful frugality, not the least grain of it being wasted or neglected.

THUS, as a modern author observes, their indulgent Creator has given them all implements necessary, either for building their combs, or composing their honey. They have each a portable vessel, in which they bring home their collected sweets: and they have the most commodious store-houses, wherein they deposit them. They readily distinguish every plant, which affords materials for their business: and are compleat practitioners in the arts of separation and refinement. They are aware, that the vernal bloom and summer sun continue but for a season. Therefore they improve to the utmost every shining hour, and lay up a stock sufficient to supply the whole state, till their flowery harvest returns.

ALMOST every one knows the great and various uses of wax and honey, the consumption whereof, throughout the several parts of Europe, is incredible; and if honey were more used than it is, instead of sugar, it would be found of excellent service. Being very penetrating and deterging, it is good in all obstructions, especially from viscid and tough humours. It wonderfully promotes expectoration; nor is there any disorder arising from phlegm, or the produce of a cold constitution, in which it is not serviceable. If eaten over night upon a toast, or dissolved in any warm liquor, it greatly helps those who are troubled with thick phlegm in a morning. But it is to be observed, that there is a peculiarity in some constitutions, which renders them incapable of bear-

ing the leaſt quantity of honey, without gripes, vomitings, and great uneaſineſs. In ſurgery, it is uſed to cleanſe foul ulcers, either by immediate application, or waſhing them with liquors in which it has been diſſolved.

CONSIDERING therefore the advantages ariſing from the labours of bees, is it not ſtrange that our country-people are not more ſolicitous about the preſervation and increaſe of theſe animals? It is certain they would multiply prodigiouſly with proper management; and we might, upon a moderate computation, have five thouſand times as much wax and honey produced in this kingdom as we have at preſent. But inſtead of taking due care to keep them warm in winter, and to ſupply them with a ſufficient quantity of food, we ſuffer vaſt numbers to periſh annually; and ſtill greater numbers we deſtroy, with the loſs of an immenſe future progeny, by ſmothering whole ſwarms in the hive, in order to obtain the honey. Our neighbours the French and Dutch have found out a method to prevent this deſtruction; and it is ſurprizing, that no more notice has been taken of what Sir George Wheler relates concerning the management of bees in Greece, which certainly deſerves the conſideration of our farmers, as ſuch a practice (or ſomething of the like nature) would evidently tend to their very great emolument.

THE Greek bee-hives (that traveller informs us) are made of willows or oſiers, and ſhaped like our common duſt-baſkets, being wider at the top than at bottom, and plaſtered with clay both within and without. Acroſs the top of the hive they lay broad flat ſticks, covering them with clay and ſtraw to ſecure them from the weather. To theſe ſticks the bees faſten their combs, ſo that they may be taken out whole, one by one, with the great-

greateſt eaſe imaginable. In March or April, to prevent the bees from ſwarming and flying away, they ſeparate with a knife the ſticks to which the combs are faſtened, taking out thoſe on each ſide, and placing them in the ſame order in another hive, till they are equally divided. Then having furniſhed each hive with more ſticks, and covered them over as before, they ſet the new hive in the place of the old one, removing that to a neighbouring ſtand. This is done in the middle of the day, when the greateſt part of the bees are abroad; who, at their return home, divide themſelves without much difficulty, ſome taking to the new and others to the old habitation. In Auguſt they take out the honey after the ſame manner, that is, ſeparating the ſticks on each ſide, and taking away the combs, till they have left only ſuch a quantity in the middle, as they judge ſufficient for the ſupport of the bees in winter; bruſhing thoſe on the combs into the hive again, and covering it afreſh with ſticks and plaſter. This is alſo done in the day-time, when moſt of the bees are abſent from the hive, and are therefore leaſt diſturbed themſelves, and give their plunderers the leaſt diſturbance. By this means the bees being not deſtroyed, as is the cuſtom in England when we take the honey, increaſe and multiply prodigiouſly, and make their maſters ample amends for the little honey they leave them to feed upon in the winter. Beſides, our author is of opinion, that the ſmoke of the ſulphur uſed to deſtroy the bees, diminiſhes the fragrancy of the wax, and cannot communicate any good flavour to the honey *.

* This is the account Sir George Wheler gives of the management of bees at a Greek monaſtery on mount Hymettus,

ANTIQUITIES.

THE remains of antiquity to be met with in that part of the Turkish dominions we are now surveying, especially in Greece and some of the neighbouring islands, are almost innumerable, and many of them too insignificant to be mentioned; but we shall endeavour to give a description of such as have chiefly engaged the attention of travellers, beginning with those of Constantinople, the capital of the Ottoman empire.

THE Hippodrome, or Place for Horse-races, is a famous square in that city, now called Atmeidan by the Turks, which is almost a translation of its ancient name, At in their language signifying a Horse, and Meidan a Place *. It is still of the

tus, which is celebrated for the best honey in all Greece, and from whence a great quantity is sent to Constantinople. The same author mentions another monastery called Pendeli, not far from Hymettus, which in his time was under the protection of the sultaness mother, and the monks were obliged to pay upon that account six thousand weight of honey every year to a new mosque which she built at Constantinople, and to furnish it with as much more at the price of five dollars the quintal. He adds, that these good fathers have seldom less than five thousand stocks of bees, with a great deal of arable land, vineyards, plantations of olive-trees, herds of cattle, flocks of sheep, and all other conveniencies their manner of life requires.

* According to M. Tournefort, this place is put almost to the same uses it was originally, for on Fridays, when the service at the mosques is over, the Turkish youth, well dressed and mounted, assemble together to exercise themselves in feats of horsemanship. They divide themselves into two companies; and, on a signal given, one starts from each end, riding full-speed with a long kind of dart in his hand. Each throws his dart at his adversary, and the other endeavours to avoid it; in which consists the excellency of the performance. Their horses are very swift, and the riders manage them with wonderful dexterity and address.

same

ſame dimenſions as it was formerly, viz. about four hundred and fifty paces in length, and a hundred in breadth; but of all its fine ornaments, there are now only two remaining. The firſt is an Obeliſk of granite or Thebaic marble, of one ſingle piece, about fifty feet high, terminating in a point, and charged with hieroglyphicks now unintelligible; a proof, however, of its being very ancient, and wrought in Egypt. It ſtands on four little brazen pillars, upon a pedeſtal eight or ten feet high, on which are two inſcriptions, the one in Greek, the other in Latin, importing, that the emperor Theodoſius cauſed it to be ſet up again, after it had lain upon the ground a conſiderable time; that the engineer who undertook this taſk was named Proclus, and that he compleated it in two and thirty days. Each ſide of the pedeſtal is likewiſe adorned with curious baſs-reliefs, one of which, on the north, repreſents the workmen and machines whereby the obeliſk was raiſed, and alſo the obeliſk itſelf, both upright and lying upon the ground. Another range of ſculptures below repreſents the Hippodrome as it was formerly, with two obeliſks, two men on horſeback, and ſeveral people on foot. On the ſouth ſide of the pedeſtal are carved four chariots, two of which are drawn by a pair, and the other by four horſes, with each of them a driver; and on the ſame ſide are twenty or thirty figures clothed in gowns, with others in a fighting poſture, armed with bucklers. On the eaſt ſide is repreſented a promiſcuous company of men and women, dancing and playing upon muſical inſtruments of ſeveral kinds; and higher up are two ranges, whereof little appears but the heads, which were probably intended for the ſpectators. The weſt ſide is adorned with figures in a ſuppliant poſture,

posture, making presents to the emperor Theodosius, who is seated on a throne, with his two sons Honorius and Arcadius, and attended by his nobles.—This obelisk had formerly on the top of it a brazen pine-apple, which was thrown down by an earthquake, as we are informed by Nicetas, in his life of St. Ignatius, patriarch of Constantinople.

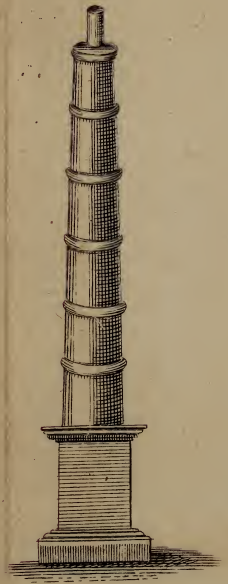
AT the opposite end of the Hippodrome there is another obelisk, consisting of several pieces of white marble, and raised upon a pedestal of the same; but when Sir George Wheler saw it, in 1675, the top of it was broken off, and the rest looked ready to fall. M. Tournefort, who was at Constantinople in 1700, gives the same account of this obelisk, and adds, that it was formerly covered with plates of brass, which he supposes were adorned with bass-reliefs and other ornaments, an inscription on its base representing it as a very wonderful work, and made still more beautiful by the emperor Constantine, the son of Romanus.

BETWEEN the two obelisks we have been describing stood a pillar of brass, about fifteen feet high, representing three serpents twisted spirally round each other like a roll of tobacco, the wreaths diminishing gradually from the base to the top, where the heads of the serpents parted different ways, bending outwards in a triangular form. In the year 1700 the pillar was thrown down, and the heads broken off and carried away; and some years afterwards the pillar itself was removed, but what is become of it we are not able to say.—The history of this column is very uncertain; but there is great reason to suppose, with M. Tournefort, that it was brought originally from Delphos, where it served to support the famous golden tripod of Apollo. Sir George Wheler conjectures, that

it

The Serpentine Pillar.

The Porphyry Pillar.



The Pillar of the Emp.r Marcian.

From J.r G. Wheler

J. Hulett Sculp.

it was anciently placed on the top of the obelisk last described.

In the great street leading to Adrianople, stands the Burnt Column, as it is now called, being so black and scorched by the frequent fires that have happened near it, that one can scarce discover what it is made of: upon a narrow inspection, however, it appears to be composed of several pieces of porphyry, the joints whereof are bound about with rings of brass. It is raised upon a square marble pedestal, every way four yards broad, and six yards high; and towards the top of it there is a Greek inscription, implying, that this admirable piece of workmanship, being ruined by time, was erected anew by the emperor Manuel Comnenus, who reigned in the twelfth century. This pillar is supposed to have been brought from Rome by Constantine the Great, who caused a beautiful brazen statue of Apollo to be placed upon it, and called by his own name; which statue, according to history, was either struck down by lightning, or blown off and demolished, several persons being dashed to pieces by its fall. In a word, the column, though very ancient, has not suffered so much by length of time, as by fires, storms, and earthquakes.

In a part of the city, lying south from the Hippodrome, stood, till about fifty years ago, the Historical Pillar, so called, because it was covered with bass-reliefs from top to bottom, representing the victories of the emperor Arcadius. The conquered towns were denoted by the figures of women, whose heads were crowned with towers; and amongst them the emperor appeared sitting in a kind of elbow-chair, with two angels over his head, supporting the Labarum or standard of the christian emperors. The sculptures were much

better

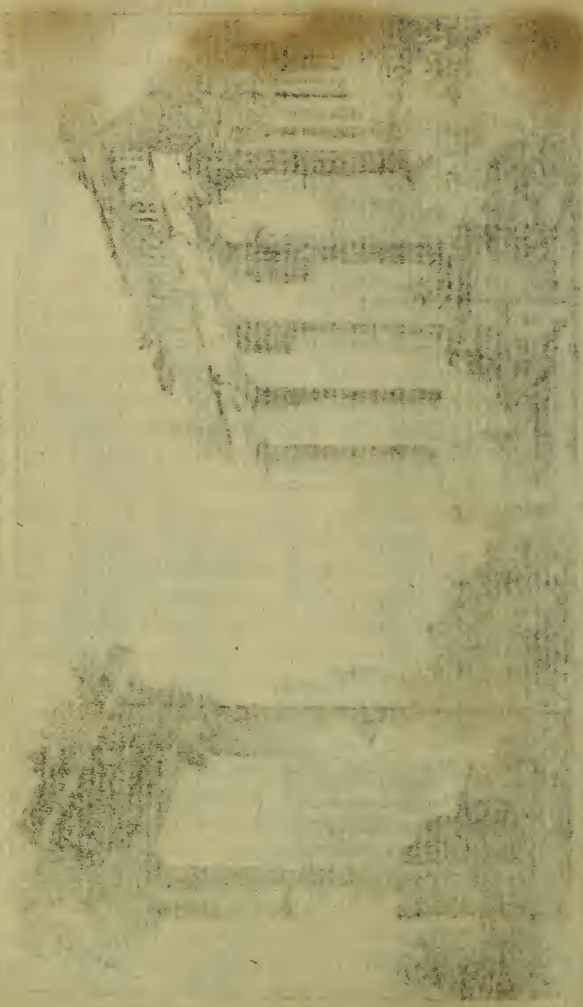
better than moſt performances of the ſame date, that is, in the declenſion of the Roman empire. The horſes in particular were finely done; and the artiſt had taken pains to make the figures appear of an equal bigneſs to the eye at all the diſtances, thoſe near the top ſeeming juſt as large as thoſe at the bottom. This column was of plain white marble, but blackened and disfigured by fires as well as the former. It was a hundred and forty-ſeven feet high, and had a pair of winding ſtairs within it, but ſo much broken and decayed, that they were entirely uſeleſs.

THERE is another monument of antiquity which was ſcarce taken notice of before Sir George Wheler, who diſcovered it in a private court-yard about half way between the Hippodrome and Adrianople gate. It is a pillar erected to the emperor Marcian by Tatianus, as appears from an inſcription on the pedeſtal, who was undoubtedly the ſame that aſſured Marcian, when he was only a private ſoldier, that he ſhould live to be advanced to the imperial throne; and the event having verified the prediction, he made Tatianus governor of Conſtantinople. This column is of granite, and has an urn of white marble on the top of it, wherein Marcian's heart was probably depoſited; and it is ſuppoſed a ſtatue of that emperor was placed upon the urn, as the above-mentioned inſcription ſeems to intimate.

LET us now take a view of the antiquities of Athens, which are ſtill very numerous, notwithſtanding the havock that time and barbarous ignorance has made amongſt them. That which claims our firſt attention, is an ancient temple of Minerva, now a Turkiſh moſque, which is all built of white marble, and is perhaps the moſt beautiful piece of antiquity now in being. It is about two hundred

and

Temple of Minerva. *Adrian's Aqueduct.*



and eighteen feet in length, and ninety-eight in breadth; and has on every side an ascent of five steps, that seem contrived as a basis to the portico, which is supported by channelled pillars of the Doric order, running all round the temple. These pillars are forty-six in number, two and forty feet high, and seventeen feet and a half in circumference. The front and frize round about the temple were charged with historical figures of admirable workmanship, many of which were standing about a hundred years ago.—The back front of this temple was adorned with figures representing the contest between Neptune and Minerva, about naming the city of Athens; but they are likewise all fallen down. The architrave was also charged with bass-reliefs, cut in squares at several distances, which represented the wars of the Athenians, particularly their victory at Marathon, and that over the Gauls in Mysia. Within the portico we see a range of sculptures, which are undoubtedly as ancient as the temple itself, and of excellent workmanship, representing sacrifices, processions, and other ceremonies of the heathen worship. This, like other Pagan temples, was almost entirely dark within, having no other light but what came in at the doors; but there is now a window at the east end of it, which was made by the Greek christians when they were in possession of it, and used it for divine service. Towards the bottom of this window there are several stones, which admit through them a yellowish light, and have been represented as miraculous, and said to shine in the dark, but are in reality only a kind of transparent marble *.—As to the founders of this beautiful temple,

* This is the sort of marble, as Sir George Wheler observes, which Pliny calls Phengites; and the temple of Fortune,

temple, the body of it was built by Pericles, to which Attalus added the magnificent portico: but the emperor Adrian moſt probably repaired it, and adorned it with the figures on each front; for the whiteneſs of the marble, and that emperor's ſtatue among the figures, plainly ſhew thoſe ſculptures to be of a later date than the temple itſelf.

NOT far north from the temple of Minerva ſtands that of Erectheus, which is a ſort of double building, as Pauſanias deſcribes it, through the leſſer part whereof we enter into the larger. The roof of the large building is ſupported by channelled Ionic pillars, but the capitals ſeem to be a mixture of the Doric and Ionic orders.—On the ſouth ſide of Minerva's temple are ſome ancient ruins, with ſome ſtatues of women in the walls, which Dr. Spon imagined to be the Graces. They are cloathed, indeed, contrary to the uſual manner of repreſenting thoſe deities; but that the Graces were not always repreſented naked, appears from Pauſanias, who has deſcribed their ſtatues and temple.

DESCENDING from the Acropolis or caſtle, in which are the antiquities already mentioned, we come to the remains of the theatre of Bacchus, the ancient ſeats whereof are ruined; but where they were, and their diſtance from each other, may ſtill be diſcerned. The front towards the ſea has beſt eſcaped the injuries of time; for there are three rows of arches remaining, one above another; but the ſemicircular area below the ſeats,

tune, built by Nero, was of this ſtone, which by its tranſparency ſupplied the want of windows, ſo that the inſide received light enough, even when the doors were ſhut. It was anciently found in Cappadocia, but it is far from being peculiar to that country, very beautiful pieces of it having been found in Derbyſhire, as well as in France and Germany.

and

and the ſcene, (or that part of the theatre aſſigned for the actors) are almoſt filled with the ruins of the reſt of the building. The whole ſtructure was of white marble, and anciently adorned with the ſtatues of Menander, Euripides, Sophocles, and Æſchylus, their moſt celebrated dramatic writers. At a little diſtance from the theatre, the foundations of ſome arches are to be ſeen, ſuppoſed to be the remains of the portico of Eumenes, where the actors got their plays by heart, and the citizens uſed frequently to walk for the ſake of the air and converſation *.

In the ſide of the rock whereon the caſtle ſtands, there is a little church, or rather grotto, the front whereof is adorned with three marble pilaſters of the Corinthian order, ſuſtaining an architrave of the ſame, with a ſedent figure on the top of it without a head, and ſeveral Greek inſcriptions, from whence it is ſuppoſed to have belonged to a Gymnaſium, or to have been a monument erected in honour of ſuch as had been victors in the gymnaſtic exerciſes, which were wreſtling, running, throwing the quoit, and ſeveral others, contributing either to the preſervation of health, the defence of the body, or mirth and recreation.

To the ſouth-eaſt of the caſtle are yet ſtanding ſeventeen beautiful columns of the Corinthian order, called Adrian's pillars, as being thought to be the remains of that emperor's palace, which was probably the greateſt ornament of Athens when the ſtructure was entire. They are of admirable white marble, above fifty feet high, in-

* From their diſputing as they walked under the porticos of the Lyceum at Athens, the diſciples of Ariſtotle were called Peripateticks; and from Zeno's teaching under a portico or piazza, which the Greeks call Stoa, his followers obtained the name of Stoicks.

cluding

cluding the capitals and baſes, and about eighteen in circumference. It appears, however, from a view of the place, that there were originally ſix rows of them, twenty in each row, which ſupported a portico of ſurprizing beauty and magnificence, incloſed within a cloiſter, wherein were divers little rooms, whoſe cielings were of alabaſter g lt, and the whole adorned with fine ſtatues and paintings.—Pauſanias likewiſe mentions an excellent library collected by Adrian, and a Gymnaſium bearing his name, of which there are no footſteps to be ſeen; but there are ſome remains of an aqueduct begun by that emperor, and finiſhed by Antoninus Pius, as appears from an inſcription on an architrave ſupported by two Ionic pillars *.

JUST without the city ſtands the temple of Theſeus, another noble monument of antiquity ſtill remaining, which, as to its matter, form, and order of architecture, exactly reſembles that of Minerva. With reſpect to the workmanſhip, it may be deemed a maſter-piece; nor is it eaſy to be parallelled, much leſs exceeded, by any other ſtructure. Within the portico, at the weſt end, there is a baſs-relief, repreſenting the battle of the Centaurs; and at the eaſt end there ſeems to be a continuation of that hiſtory: there are likewiſe ſeveral figures of women, which Mr. Vernon takes to be Pirithous's bride, and the other ladies who attended at the wedding. On the outſide of the portico, in the ſpaces between the

* Aqueducts were not common at Athens before the times of the Romans, the want of them being ſupplied by wells, ſome of which were dug by private perſons, and others at the public expence. At preſent the town is well furniſhed with water, brought by aqueducts under ground from the rivers Iliſſus and Eridanus, and conveyed to many private houſes, as well as to common fountains.

triglyphs,

Temple of Theseus at Athens

triglyphs, are repreſented ſeveral feats of Theſeus, particularly in wreſtling, where all the locks and poſtures of that art, in which he excelled, are admirably well expreſſed. He is alſo exhibited as encountering bulls, bears, and other monſters: but time has pretty much injured many of theſe figures, the temple having been built ſoon after the battle of Marathon, when the Athenians, under the conduct of the brave Miltiades, gained ſo ſignal a victory over the Perſian army, that is, almoſt five hundred years before the birth of our Saviour.

THE Tower of Andronicus, or Temple of the Eight Winds, is yet ſtanding at Athens, and is worth a traveller's obſervation, It is an octogonal ſtructure, on each ſide of which is a winged figure repreſenting one of the winds, with the name wrote over it in Greek capitals; and underneath theſe figures, only ſeparated from them by a frize, are ſo many ſun-dials, accommodated to the different ſides of the tower. The roof of the building conſiſts of little planks of marble, broad at bottom, but meeting all in a point at top, ſo as to form a kind of pyramid of more than thirty ſides; on the ſummit whereof there was formerly a brazen Triton, with a ſwitch in his hand, pointing to the quarter from whence the wind came; but this weather-cock is long ſince deſtroyed. The figures are of excellent workmanſhip, each expreſſing the nature of the wind it is intended to repreſent.

IN the ſouth-weſt part of Athens ſtands a beautiful little ſtructure, commonly called the Lanthorn of Demoſthenes, on account of a tradition, that the orator ſhut himſelf up there in order to purſue his ſtudies without interruption, having firſt cut off one half of his beard, the more effectually

tually to reſtrain himſelf from appearing in public: but the real deſign of this piece of antiquity will beſt appear by conſidering its form and ornaments. It is a round edifice of white marble, only ſix feet in diameter within, and ſhaped ſo much like a lanthorn, that it is no wonder it has obtained that name. The roof is ſuſtained by ſix fluted columns of the Corinthian order, nine feet and a half high; and the ſpace between the columns is taken up with pannels of marble, of one ſtone from the top to the bottom. The frize above theſe columns conſiſts of one circular ſtone, and another entire ſtone forms the roof or cupola, which is carved ſo as to reſemble ſcales lying one over another, and crowned with a ſort of ſtem like the ſocket of a candleſtick, (as Sir George Wheler repreſents it) or rather (as Mr. Vernon) like a plume of feathers. On the frize are beautifully repreſented in relievo ſeveral of the labours and exploits of Hercules, as is judged from ſome of the figures being cloathed with lions ſkins. There is alſo an inſcription on the frize, which gives ſome reaſon to conjecture, that this fabric was a temple dedicated to Hercules, by thoſe who had been victors in the public games. Be this as it will, it appears from the ſame inſcription to be of great antiquity, and to have been built above three hundred and thirty years before the birth of our Saviour.

SOME remains of the Odeum, or Muſic-theatre, built by Pericles, are ſtill to be ſeen, being the foundations of a ſemicircular ſtructure, about a hundred and forty paces in diameter. Within the area there is a ſquare elevation five or ſix feet high, with ſteps to the top of it; and on each ſide are ſeveral ſeats or ſtone-benches, ſuppoſed to have been intended for the muſicians. From theſe ſeats, however, Sir George Wheler ſeems rather to think this

this was the place where the ſenate or court of the Areopagus uſed to aſſemble, which was ſo famous for its antiquity, and the juſtice and impartiality of its decrees*.

THERE are ſeveral other noble monuments of antiquity to be ſeen at Athens, particularly the remains of a Stadium built by Lycurgus, and enlarged by Herodes Atticus; which was of ſuch a ſtupendous bigneſs, according to Pauſanias, that it looked like a mountain of white marble. Very little of the ſtone-work is at preſent remaining, but its form and dimenſions are yet to be diſcerned.—Adrian's gate, and part of the temples of Auguſtus and Jupiter Olympius, are worth the attention of the curious.—To theſe we might add many inſcriptions, baſs-reliefs, and things of the like nature, which our deſign does not require us to ſet down or deſcribe; but if the reader has a taſte that way, we refer him, for a more particular account of the Athenian antiquities, to Sir George Wheler and other travellers.

* The time of the inſtitution of this tribunal is not known, ſome referring it to Solon, and others carrying it as high as Cecrops; nor are authors agreed as to the reaſon of its name, or the number of perſons of which it was compoſed. Its reputation was certainly very great, not only in Greece, but among foreign ſtates, and even among the Romans themſelves, who often ſubmitted their moſt difficult cauſes to its deciſion. This aſſembly ſat in the open air, as was anciently the cuſtom in all courts of judicature that had cognizance of murder; partly becauſe it was unlawful for the accuſer and criminal in ſuch caſes to be under the ſame roof; and partly that the judges, whoſe perſons were reckoned ſacred, might not be polluted by converſing with ſuch heinous malefactors. They alſo heard and determined cauſes in the night-time, that they might be the leſs diverted from their attention to the buſineſs in hand; and all pleadings before them were to be ſimple, without exordium, digreſſion, or peroration.

AT Corinth, and about the neighbouring Iſthmus, ſo famous for the ſolemn games there celebrated by the ancients *, ſome remains of antiquity are yet to be diſcovered, but none ſo entire as thoſe we have been deſcribing. Our countryman juſt mentioned takes notice of very few in Corinth itſelf, and the chief of thoſe are only ten or eleven pillars ſtanding upright, which, from their ſituation, he judged to have ſupported the portico of ſome temple. They are of the Doric order, fluted, and of a common hard ſtone; but their proportion ſeems to vary conſiderably from the rules of the ancients, their circumference being eighteen feet, and their height not much above twenty. On the north ſide of the market-place there is alſo a heap of ruins of brick-work, ſuppoſed to be either part of a temple, or of a Roman bath.—At mount Oneius, on the Iſthmus, are to be ſeen the ruins of the town, of the Iſthmian theatre, and of ſeveral ſtately temples and other edifices mentioned by Pauſanias; and in many places one may diſcern the foundations of the walls built by the Lacedæmonians from one ſea to the other, to prevent the incurſions of their enemies. They were repaired by the Venetians when they were in poſſeſſion of the Morea, but they have been ſince deſtroyed.

* The Iſthmian games, in honour of Neptune, were ſolemnized every fifth year with incredible magnificence, and drew together a prodigious concourſe of ſpectators from all parts of Greece. The victors were at firſt rewarded with garlands of pine-leaves, but afterwards with a wreath of parſley, which was alſo the reward of the Nemean conquerors; whereby the inſtitutors of thoſe games undoubtedly intended to intimate, that honour only, not mean and ſordid intereſt, ſhould be the motive of great actions and undertakings.

LET us now leave the Continent, and ſurvey the antiquities to be met with in the iſland of Delos, which was famed among the ancients for being the birth-place of Apollo and Diana. In this iſland was a magnificent temple dedicated to Apollo, which is now a vaſt heap of ruins, lying in ſuch a confuſed manner, that it is impoſſible to determine ſo much as the form of that ſtructure. Amongſt theſe ruins are the remains of a coloſſal ſtatue of Apollo, which has loſt its head, arms, and feet; and the reſt of it is broken into two pieces, the one conſiſting of the belly and thighs, the other of the back and ſhoulders. The back is two yards broad, and the other parts proportionably large; ſo that M. Tournefort imagines it was placed on the frontiſpiece of the temple, and appeared no bigger than the life, from whence one may judge of the height of that edifice. This ſtatue appears to have been an admirable piece of ſculpture, the rings of hair falling down the ſhoulders being particularly beautiful. A large piece of marble, fifteen feet and a half long, ten feet nine inches broad, and two feet three inches thick, is to be ſeen among the ruins, which was undoubtedly the plinth of this gigantic ſtatue, an inſcription upon it, ſhewing that it was dedicated to Apollo by the people of Naxos.—Not far from the ſtatue Sir George Wheler found half the body of a woman, the drapery whereof was carved ſo well, that it ſeemed to be the work of no leſs a maſter than the former. Juſt by this he ſaw the body and fore part of a Centaur, on which the ſculptor had ſo well diſplayed his ſkill, that life and vigour appeared in every vein and muſcle. The head and neck of a horſe, part of the figure of a woman, and ſeveral fragments of lions, are alſo found in theſe noble ruins, which in general

conſiſt of huge pieces of broken columns, architraves, baſes, capitals, &c. all mingled together in the utmoſt diſorder and confuſion.

AT a ſmall diſtance from the ruins of this temple lie thoſe of a portico, which from an inſcription appears to have been erected by Philip king of Macedon, and conſiſts of columns and architraves truly magnificent. Theſe architraves have eſcaped breaking and carrying away, being inchaſed into the tops of the columns, which are angular towards the baſe, and channelled upwards, compoſed of ſeveral pieces, and of the Corinthian order. Each architrave is one foot eight inches deep, ten feet in length, and two and a half in thickneſs, and the largeſt diameter of the columns is two feet four inches.

ABOUT three hundred paces from this portico we come to the remains of a beautiful marble theatre, whoſe circumference is five hundred feet, and its diameter, including the ſteps, two hundred and fifty. Juſt before the opening of the theatre there are eight or nine vaults in a row, ſeparated from each other by a wall, in which there is a little arch, ſerving for a paſſage from one to another. Dr. Spon imagined them to have been a kind of ciſterns or reſervoirs of water, but it is more likely they were to keep lions and other wild beaſts in, which uſed to be baited in the theatres of the ancients. Theſe cellars were not arched over, but covered with huge pieces of marble cut like beams, with proper openings to let in the light, and to bring the animals in and out.

NEAR the foot of mount Cynthus, which runs almoſt croſs the iſland, we find the remains of a temple, as they are ſuppoſed to be, viz. nine pillars of marble diſpoſed in a circle, three ſtanding upright, and ſix fallen to the ground. This temple

ple had a mosaic pavement, and underneath these columns most beautiful vaults have been discovered.—This mountain is steep and craggy, consisting of little else but a kind of greyish marble; and Sir George Wheler imagines, that the way up the mountain (which is deep, broad, and winding) was originally a quarry from whence the marble was dug, it resembling many quarries he afterwards saw in Attica. On the top of the hill are to be seen the foundations of a citadel which commanded the whole island; and all the way up, on each side of the road, it appears to have been formerly adorned with temples, porticos, or other structures, as the foundations of walls, and a vast number of columns, pedestals, architraves, and other fragments of excellent marble, sufficiently demonstrate.

In another part of the island not far from the sea, there are still standing six or seven pillars of granite, which the people of the neighbouring islands (for Delos is not inhabited) call the School, from a tradition that there was anciently a Gymnasium in that place. Between twenty and thirty columns are lying upon the ground near those which are standing, most of them nine or ten feet high, but of different diameters, and seem to have supported a square structure; but that it was a Gymnasium is not very likely, though probably there was one in the island.

About a hundred paces from this supposed Gymnasium we see an oval bason, almost three hundred feet long and two hundred broad, lined round with a wall as high as its banks, which is faced with a thick cement proper to contain water. This is thought to have been a Naumachia, or place for naval exercises; for though we have not the positive testimony of ancient authors, that

they uſed to repreſent ſea-fights at Delos, the baſon ſeems evidently intended for that purpoſe *. We muſt not imagine that large veſſels were uſed on theſe occaſions, but ſuch as were ſuitable to the dimenſions of the place, and the depth of the water.

ON a little eminence near this baſon lie the ruins of ſome ſtately temple, if we may judge from the number of marble columns, half fluted and half pannelled, about two and twenty inches in diameter; and more eſpecially from the fragment of an altar found amongſt them, adorned with feſtoons, bunches of grapes, and heads of oxen. The upper part of this altar is ſomewhat hollow, proper for the burning of incenſe; and by this cavity we may diſtinguiſh altars from the pedeſtals of ſtatues. Theſe altars are frequent in Delos, and in the adjacent iſland of Rhenia †.

THE remains of another noble ſtructure are to be ſeen at that end of the baſon which faces the temple of Apollo. A vaſt number of pillars appear to have formed a ſquare as broad as the leſſer diameter of the baſon; and perhaps ſuſtained a portico built by Dionyſius Eutyches, an architrave and altar with that prince's name being found very near theſe ruins. Some of the columns are yet ſtanding, but moſt of them are fallen down and broken to pieces. There are plain ones of twen-

* M. Tournefort informs us, that this baſon is now half filled up with earth, and that the rain-water ſettled in it was briny and almoſt bitter; which ſeems to argue that the cavity was formerly filled with ſea-water, (as is ſuppoſed) the ſalt and ſlime whereof ſtill remain there in great quantities.

† In Rhenia (which is alſo called the Greater Delos) M. Tournefort ſays, he counted, to his great ſurprize, above a hundred and twenty altars; moſt of which were cylindrical, three feet ſix inches high, and near three feet in diameter, adorned with feſtoons, and the heads of rams or oxen.

ty

ty inches diameter, and others of eighteen cut in pannels, both intermixed with huge pillars of that granite, with which mount Cynthus abounds.—From this portico to the Little Port of Delos there is nothing but fragments of marble columns, altars, &c. which have such an appearance of magnificence, that they are probably the ruins of Latona's temple.

By this time we imagine the reader is pretty well tired with viewing the monuments of antiquity, and yet we could not forbear enlarging a little on so copious a subject; but we shall now shift the scene, and give him a prospect less ruinous and melancholy, of some of the noblest structures in the European part of the Turkish dominions.

BUILDINGS.

Though the Turks affect nothing grand in the structure of their private houses, yet their mosques or temples, and other publick buildings, are extremely magnificent. The royal mosques in particular, of which there are seven so called, are very beautiful and stately edifices, and are usually the first that engage the attention of a stranger after his arrival at Constantinople. These buildings appear to much more advantage than many of our finest churches, which (in London especially) are often so closely surrounded with houses and tradesmen's shops, that there is no room to view them at a proper distance; whereas the mosques of Constantinople stand single, within spacious inclosures, planted with trees and adorned with fountains. The domes, it must be granted, are well executed in most parts of Turkey, especially those of the mosques, which are of an exact proportion, and accompanied with

other ſmaller cupolas, which ſet them off to the eye, and give them a noble and majeſtic appearance. The ſlender ſteeples or pillars called Minarets, which are ſomewhat like the Monument in London, terminating in ſmall ſpires with gilded creſcents on the top of them, are alſo a great ornament to their moſques, as well as to their cities, many of them being very tall, and works of ſurprizing boldneſs.

THE principal of the royal moſques, and one of the nobleſt ſtructures in the world is that of St. Sophia, which is advantageouſly ſituated on an eminence in one of the beſt and fineſt parts of Conſtantinople. It was formerly a Chriſtian church, having been built in the ſixth century by the emperor Juſtinian; and though the Turks have now converted it into a moſque, it ſtill retains its ancient name. The length of this edifice is a hundred and fourteen paces, and its breadth eighty, having in the front a portico twelve yards wide, ſupported by marble columns, which in the time of the Greek emperors ſerved for a Veſtibulum, where ſuch perſons were appointed to ſtand as were about to receive the ſacraments, or undergo publick penance. This portico has a communication with the church by nine ſtately folding doors, the leaves whereof are braſs, and adorned with fine baſs-reliefs; and on the middlemoſt ſome figures of moſaic work are ſtill to be diſcerned. Another portico, parallel to this, has only five brazen doors without baſs-reliefs, but formerly charged with croſſes, which the Turks have defaced. The greateſt part or body of the moſque is covered by a dome of admirable ſtructure, at the foot of which runs a colonade, ſuſtaining a gallery ten yards broad, which, when the Chriſtians were maſters of it, was ſet apart for

Vol. III. The whole view of the Church of Sancta Sophia from Du Fresne. Page. 174.

J. Hulsu Sculp.

for the women; and over this are two smaller galleries, supported by columns and arches of excellent workmanship, answering to those below. The dome is said to be an hundred and thirteen feet in diameter, and is built upon arches supported by vast pillars of white marble. The incrustations of the gallery are mosaic, mostly done with little cubes of glass, which by time are continually loosened from their cement, but their colour is fresh and unchangeable. The form of the dome is that of a hemisphere or half-globe, and it is illuminated by twenty-four windows placed round it at equal distances. It was adorned by four cherubims and other figures, which have been defaced by the Turks, who do not admit of any imagery or painting in their mosques. On the east side of this vast cupola is a demi-dome, which was the sanctuary or chancel of the Christians; and here is now a niche, wherein the Turks keep their Koran, which may be looked upon as the Mahometan Bible, containing the revelations, doctrine, and predictions of their pretended prophet. This niche is in that part of the dome which stands towards Mecca, and the niches in all their mosques are placed in the same manner; for that way the Mahometans always turn their faces when they say their prayers. At a little distance from the niche is the Mufti's chair *, raised on several steps; and on the side of it is a kind of pulpit, where certain

* The Mufti is the high-priest or patriarch of the Mahometan religion, being the sovereign interpreter of the Koran, and the oracle of their law, to whom the last appeal is generally made in cases of importance. He takes place of the bashaws, and his authority has been often terrible to the Grand Signior himself. It is he that girds on the sword to the Grand Signior's side, which ceremony answers to the coronation of our kings.

prayers are repeated by perſons appointed for that purpoſe.——It is thought the Turks have pulled down ſome parts of this edifice ſince they took it from the Chriſtians; inſtead of which, however, they have added four of thoſe tall ſlender minarets before-mentioned. Every royal moſque has at leaſt two minarets, and one of them has ſix; but the ordinary moſques have ſeldom more than one. About the middle of theſe, on the outſide, there are uſually three balconies or galleries, one above another; to which the Imaums (as the Turks call them) aſcend by ſtairs within, and with a ſhrill ſinging tone give notice to the people to come to their devotions.

THE moſque juſt deſcribed is generally repreſented as the nobleſt building in Conſtantinople; yet the lady Wortley Montague obſerves, that there are others ſtill more beautiful. That of Sultan Solyman is an exact ſquare, with four fine towers in the angles. In the midſt is a noble cupola, ſupported by fine marble pillars, and two ſmaller at the end, ſupported in the ſame manner. The pavement and gallery round the moſque are of marble. Under the great cupola is a fountain adorned with pillars of ſuch beautiful colours, that they ſeem to exceed nature. On one ſide is the pulpit of white marble, and on the other a little gallery for the Sultan, which is aſcended by a fine ſtair-caſe with gilt lattices. At the upper end is a kind of altar, where the name of God is written; and before it ſtand two candleſticks, five or ſix feet high, containing lofty wax candles. The windows are larger and better diſpoſed than thoſe of St. Sophia. The pavement is ſpread with fine carpets, and the moſque illuminated with a vaſt number of lamps. The court leading to it is very ſpacious, and encompaſſed with galleries,

ſupported

ſupported by columns of green marble; and on two ſides, covered with twenty-eight cupolas, with a fine fountain in the middle. In all the moſques are little chapels, where are the tombs of the founders and their families; and behind this ſtructure are the tomb of Solyman the Second, by whom it was founded, and that of his Sultana. Solyman's tomb is covered with a rich piece of embroidery brought from Mecca; and at the head of it is placed a tuft of feathers, adorned with precious ſtones. This mauſoleum is illuminated with ſeven large tapers, and a great number of lamps kept continually burning.

THE moſque of Sultan Achmet, now called the Atmeidan moſque as being near the Hippodrome, is ſo beautiful and magnificent, that it merits a particular deſcription. It ſtands in the middle of a large ſquare court, about twice as long as broad, on each ſide whereof is a range of low buildings, covered with a great many ſmall cupolas, which have a very pleaſing effect. From this court we paſs into a ſquare cloiſter adjoining to the weſtern end of the moſque, having a piazza ſupported by ancient marble pillars of various colours, and alſo covered with little domes. This inner ſquare is beautifully paved with marble, and has an hexagonal fountain in the middle of it, covered likewiſe with a cupola of gilded wire. At the entrance of the moſque is a portico ſuſtained by ſtately columns of marble, and folding-doors of braſs admit us into this noble edifice. The great dome ſtands upon four channelled pillars of white marble, which Sir George Wheler ſays are ſeventy of his ſpans in circumference; and to this are joined four half cupolas of the ſame diameter with the dome, but much lower. At each corner there is alſo a ſmaller dome, and

ſix tall minarets contribute much to the grandeur and beauty of the ſtructure. The domes are covered with lead, and adorned at the top (as well as the minarets) with gilded globes and creſcents, the ſymbol of the Ottoman empire *.—As to the ornaments of this moſque within, they are much the ſame with thoſe of other moſques, viz. balls of ivory, globes of cryſtal, luſtres, and the like, which make a glittering ſhow when the lamps are lighted at their evening ſervice.

THE Validea, ſo called from its foundreſs Valida, the mother of Mahomet the Fourth, is another majeſtic edifice, which ſeems to exceed the other moſques in the delicacy of its architecture. It has a ſquare court before it, like the inner one of Achmet's, with a fountain in the middle of it, and a piazza running round it, ſuſtained by beautiful columns of marble, moſt of them fetched from the ruins of Troy or Alexandria, particularly two of jaſper, which are placed at the entrance of the moſque, and are admirably well poliſhed and proportioned. The arches of the doors and windows are well deſigned, and the walls and pillars within are faced with blue and white tiles, like thoſe uſed in our chimneys. This moſque has two minarets, and each of theſe is encompaſſed

* The creſcent was the ſymbol of the city of Byzantium, (now Conſtantinople) which the Turks have only adopted. The device is of great antiquity, as appears from ſeveral medals, and took its riſe from an event related by Stephens the geographer, a native of Byzantium. He tells us, that Philip, the father of Alexander the Great, meeting with mighty difficulties in carrying on the ſiege of that city, ſet workmen in a very dark night to undermine the walls, that his troops might enter the place without being perceived, but, luckily for the beſieged, the moon appearing, diſcovered the deſign, which accordingly miſcarried. In acknowledgment of this deliverance, the Byzantines erected a ſtatue to Diana, and thus the creſcent became their ſymbol.

with

with three handſome galleries, which are finely illuminated on occaſions of public rejoicing. The lady Wortley Montague obſerves, that this is the largeſt of all the moſques of Conſtantinople, the ſize being prodigious; that it is the moſt beautiful ſtructure ſhe ever ſaw; and that St. Paul's cathedral at London would make but a pitiful figure near it.

It is needleſs to deſcribe the reſt of the royal moſques of Conſtantinople, which are built much after the ſame model as thoſe already mentioned; and the ornaments of all the moſques are of the ſame kind, only differing in number, coſtlineſs, and beauty.

The moſque of Sultan Selim I. at Adrianople, is a building well worth the curioſity of a traveller. This ſtructure is advantageouſly ſituated in the midſt of the city, and in the higheſt part of it, whence it is ſeen to great advantage on every ſide. The firſt court has four gates, and the innermoſt three; both of them ſurrounded with cloyſters, with marble columns of the Ionic order, finely poliſhed, and of very lively colours. The whole pavement is of white marble, and the roof of the cloyſters divided into ſeveral domes, with gilt balls on the top. In the midſt of each court are fountains of white marble, and before the great gate of the moſque is a portico, with columns of green marble, and five gates. The moſque is covered by one prodigious dome of a vaſt extent. It has four minarets of a prodigious height, gilt on the top, from whence the Imaums call the people to prayers. To each of theſe towers there is but one door, which leads to three different ſtair-caſes, riſing to the three different ſtories of the minaret, in ſuch a manner, that three prieſts may aſcend and deſcend without meeting each

other. The lady juſt mentioned, who was, perhaps, the only Chriſtian ever permitted to enter the inſide of this noble moſque, ſays, it has two rows of galleries, ſupported by columns of red and white marble, with marble baluſtrades; the pavement is alſo marble, covered with fine Perſian carpets. The walls are beautifully encruſted with Japan china, in flowers of the moſt lively colours. In the middle hangs a vaſt lamp of ſilver, gilt, and about two thouſand of a ſmaller ſize, which muſt have a glorious effect when all are lighted. Under the large lamp is a great pulpit of carved wood, gilt, and juſt by it a fountain to waſh. In one corner is a little gallery, encloſed with gilded lattices, for the Sultan; and at the upper end is a large natch, nearly reſembling an altar, raiſed two ſteps, and covered with gold brocade. Before it ſtands two ſilver gilt candleſticks, the height of a man, and in them wax-candles, as thick as a man's waiſt.

AT Salonichi, the capital of Macedonia, there are no leſs than forty or fifty moſques, ſome of which are very ſtately ſtructures, particularly that which was formerly a Chriſtian church dedicated to St. Demetrius. This church, according to Paul Lucas, is ſupported by noble columns of marble, jaſper, and porphyry; and underneath it he ſays there is another church equally beautiful, but he was not allowed to ſee it, becauſe women were employed there in working of ſilk. The pavement of the upper church is of moſaic work, and in this and the lower building they reckon upwards of a thouſand columns. F. Coronelli ſays it has three naves, ſupported by abundance of magnificent pillars.

WHAT has been ſaid will give the reader a ſufficient idea of the Turkiſh moſques, and therefore we

we need not mention any more, but proceed to a deſcription of the Seraglio, or palace of the Grand Signior at Conſtantinople. This palace and its gardens form a ſort of triangle about three miles in compaſs, two ſides whereof are waſhed by the ſea, and the third is ſeparated from the city by a high wall. The palace ſtands upon an eminence, and the gardens lie below it towards the ſea, which are filled with groves of ever-greens, not only for the ſake of their laſting beauty; but that the ladies of the ſeraglio, when they are walking, may not be ſeen by the neighbouring inhabitants. Mahomet the Second was the founder of this palace, which may now be looked upon rather as a collection of palaces and apartments added one to another, according to the taſte and humour of the ſucceeding emperors. The materials of which it is compoſed are rich, but the architecture is not anſwerable. The principal entrance into the ſeraglio is a huge pavilion of marble, called Capi, the Gate, or Port; from whence ſome imagine the name of Porte has been applied to Conſtantinople, but rather, perhaps, by way of eminence, from its admirable port or harbour. This gate is very lofty, having a ſemicircular arch, and beneath the bend of it there is an Arabic inſcription, expreſſing, that it was erected by the above-mentioned Mahomet. Here is a guard of fifty men, who have ſeldom any other weapon than a white wand or ſtaff, and let you paſs quietly into a large court-yard, not near ſo broad as long; on the right whereof are infirmaries for the ſick, and on the left are lodges for the ſervants employed in the meaneſt offices of the ſeraglio. In this court there is likewiſe an old building with a dome over it, ſuppoſed to have been formerly a Chriſtian temple, or part of St. Sophia; but the diſtance makes the laſt

laſt conjecture improbable. — Through another large gate we enter a ſecond court, where there is alſo a guard of fifty porters, without arms as well as the former. This is a very handſome ſquare, with ſeveral fountains in the midſt of graſs-plots, which are ſurrounded with trees, and the walks are paved with marble. Round the court runs a low piazza, covered with little cupolas, ſupported by a great number of marble columns; underneath which the Janizaries range themſelves when foreign ambaſſadors are admitted to audience, and on other ſolemn occaſions. On the right hand are ſeveral kitchens, which are handſome buildings, with cupolas over them, that have holes made in them to let out the ſmoke. One of the kitchens is for the Grand Signior, another for the favourite Sultana, a third for the ladies of the ſeraglio, and the reſt are for the commandant of the gates, the miniſters of the Divan, the Grand Signior's pages, the officers of the palace, the women ſervants, &c. who all together make up a very numerous family *. On the left hand is the Grand Signior's treaſury, and a ſtable for his ſaddle-horſes; over which are kept his bridles, ſaddles,

* Numerous indeed they muſt be, if the accounts be true which travellers give us of the proviſions they conſume. Motraye tells us, he was aſſured by ſome of the cooks belonging to the ſeraglio, that they ſpent yearly no leſs than thirty thouſand oxen, twenty thouſand calves, ſixty thouſand ſheep, ſixteen thouſand lambs, ten thouſand kids, a hundred thouſand geeſe and turkeys, the ſame number of pigeons, and two hundred thouſand fowls, beſides vaſt quantities of fiſh, eſpecially turbots, of which ſort only they uſed a hundred and thirty thouſand. Tournefort's account is ſomewhat different, who ſays, they do not provide much wild-fowl, but beſides forty thouſand oxen annually conſumed, the purveyors are to furniſh daily two hundred ſheep, a hundred lambs or goats, ten calves, ſix hundred hens and pullets, two hundred pigeons, and fifty geeſe.

houſing,

houſing, &c. which are extremely ſplendid, being enriched with jewels and embroidery. At the farther end of this court is the hall of the Divan, which is a large but not lofty building, wherein councils of ſtate are held, and the Grand Viſier (aſſiſted by his counſellors) determines all cauſes, civil and criminal, without appeal.—Beyond this hall no ſtrangers are admitted, except ambaſſadors, who paſs on to the hall of audience, which is of amazing magnificence, for there the Sultan receives them on a throne almoſt covered with pearls and precious ſtones. The furniture is anſwerable to the magnificence of the hall, the cieling and ſides whereof ſhine with gold and azure, and are adorned with paintings after the Perſian manner.

We ſhall not attempt to deſcribe the interior parts of the ſeraglio, into which it is impoſſible for a ſtranger to gain admittance, without running the riſque of paying dear for his curioſity. Some travellers indeed relate, that they have found opportunities of ſeeing the moſt private apartments of this palace, and tell us a thouſand amuſing ſtories, which ſavour more of romance than truth, and can never gain credit, but amongſt the inconſiderate and injudicious part of their readers. But we think it is better to be ſilent about matters of ſuch uncertainty, as it cannot be expected we ſhould give an account of thoſe forbidden receſſes, where the ladies of the ſeraglio are reſerved for the entertainment of the Sultan, and into which none are admitted but himſelf, or the black eunuchs, who have the care of thoſe beauties. We have only to obſerve farther of this famous palace, that, notwithſtanding it is only a vaſt cluſter of buildings, joined together without any manner of order, yet it has ſomething pleaſing in its irregularity,

rity, and, take it all together, is anſwerable to the greatneſs of its maſter.

WE may however ſafely add, that all who live in the ſeraglio are the Sultan's ſlaves, as indeed are all the ſubjects of his empire; for they acknowledge, that whatever they enjoy proceeds from his bounty, and that their eſtates and lives are abſolutely at his diſpoſal. The lady we have ſo often mentioned obſerves, that the government is entirely in the hands of the army; for the Grand Signior, with all his abſolute power, is as much a ſlave as any of his ſubjects, and trembles at the frown of a Janiſſary. Here is indeed a much greater appearance of ſubjection than amongſt us: a miniſter of ſtate is not ſpoke to but upon the knee; ſhould a reflection on his conduct be dropped in a coffee-houſe (for they have their ſpies every where) the houſe would be razed to the ground, and perhaps the whole company put to the torture. Here are no huzzaing mobs, ſenſeleſs pamphlets, and tavern diſputes about politics. When a miniſter here diſpleaſes the people, he is dragged by the Janiſſaries even from his maſter's arms. They cut off his head, hands, and feet, and throw them before the palace gate, while the Sultan, to whom they all profeſs an unlimited adoration, ſits trembling in his apartment, and neither dare defend nor revenge his favourite.

A GREAT number of incredible accounts have been given by authors, of the manner in which the Sultan and his ladies live in the ſeraglio; but it is evident, even from their own writings, that they had no poſſible means of coming at the knowledge of what they deſcribe. The right honourable lady we have ſo often quoted, on viſiting the Sultana Hefiten, the favourite of the late emperor Muſtapha, took that opportunity of learning

ing all she possibly could of the seraglio, and was assured, that by that Sultana the story of the Sultan's throwing a handkerchief to the lady he was pleased to honour with his embraces, is no other than this. He sends the kysler-aga, or chief of the black eunuchs, to signify to the lady, the honour he intends her; on which she is immediately complimented upon it by the others, and led to the bath, where she is perfumed and dressed in the most magnificent and becoming manner. The emperor precedes his visit by a royal present, and then enters her apartment. Neither is there any such thing as her creeping in at the bed's feet. Sometimes the Sultan diverts himself in the company of all his ladies, who stand in a circle round him. And she confessed, that they were ready to die with envy and jealousy of the happy she, whom he distinguished with any appearance of preferment. But this seemed to me, says our author, neither better nor worse, than the circles in most courts, where the glance of the monarch is watched, and every smile waited for with impatience, and envied by those who cannot obtain it.

In order to give the reader an idea of the magnificence of the buildings of the great, we shall give a description of one of a Grand Vizier, who was killed at Peterwaradin, and which he built to receive his royal bride, the daughter of a late Sultan, as we find it described in the letters of the learned lady Wortley Montague, who observes, that it is seated on one of the most delightful parts of the canal, with a fine wood on the side of a hill behind it. It is of a prodigious extent, and is said to contain eight hundred rooms, all adorned with a profusion of marble, gilding, and the most exquisite painting of fruit and flowers. The windows are all sashed with the finest glass brought from

from England; and here is all the expenſive magnificence that can be ſuppoſed in a palace founded by a vain luxurious young man, with the wealth of a vaſt empire at his command. But no part of it pleaſed our ingenious author, better than the apartments deſtined for the bagnios. There are two built exactly in the ſame manner, anſwering to each other; the baths, fountains, and pavements all of white marble, the roofs gilt, and the walls covered with Japan china. Adjoining to them are two rooms, the uppermoſt of which is divided into a ſopha; and in the four corners are falls of water from the very roof, from ſhell to ſhell of white marble, to the lower end of the room, where it falls into a large baſon, ſurrounded with pipes that throw up the water as high as the room. The walls are in the nature of lattices, and on the outſide of them are planted vines and woodbines, that form a ſort of green tapeſtry, and give an agreeable obſcurity to thoſe delightful rooms. The chamber deſtined for the Sultan, when he viſited his daughter, is wainſcotted with mother of pearl, faſtened with emeralds like nails. There are others of mother of pearl and olive wood inlaid, and ſeveral of japanned china. The galleries, which are numerous and very large, are adorned with flowers, and porcelain diſhes of fruit of all ſorts, ſo well done in plaſter, and coloured in ſo lively a manner, that it has an enchanting affect. The garden is ſuitable to the houſe, where arbors, fountains, and walks, are thrown together in an agreeable confuſion; and no ornament wanting, except that of ſtatues.

THE Turkiſh houſes in general are compoſed of apartments on each of the ſides of a ſquare court all of ſtone, where it can be conveniently obtained;

obtained; but in many places they are only built of wood. These structures consist of a ground floor, which is generally arched, and an upper story flat on the top; and either terraced with hard plaster, or paved with stone. The cielings are of wood, neatly painted, and sometimes gilded, as are likewise the pannels of some of their rooms, the cupboard doors, and the window shutters. The gilding of all these have a very agreeable affect: besides over the doors and windows, within the houses of the Turks, are inscribed moral passages out of the Koran, or verses of their own composing, or taken from some of their most celebrated poets. The courts formed by the four sides of the houses is neatly paved, and has generally a bason, with a fountain in the middle; and on one or both sides is a small spot left unpaved, for a kind of garden, which frequently scarce exceeds two or three yards square. The verdure here produced, with the addition of flowers in pots, and the fountain playing, would be a very agreeable sight to the passenger, were there openings to the street, through which these might be seen; but they are entirely shut up with double doors, so contrived, as that when opened none can look into the inner court; and there are no windows to the street, except a few in the upper rooms; so that nothing is perceived but dead walls, which give the streets, in all the Turkish towns, a very disagreeable appearance to the Europeans. Most of the houses of people of distinguished rank, have an arched alcove within this court, open to the north, and opposite to the fountain. This alcove has its pavement raised about a foot and a half above that of the yard. Between it and the fountain, the pavement is generally formed of mosaic work of various coloured marble, as is

also

alſo the floor of a large hall, which has a cupola roof, and frequently a fountain in the middle, or at one end.

THE Bazars, or Exchanges, are noble buildings, ſome of which extend half a mile in length, with an arched roof, and are kept extremely neat. Theſe contain three or four hundred ſhops furniſhed with all ſorts of rich goods, which are expoſed to ſale in the ſame manner as in Exeter Exchange in London. The pavement is alſo kept remarkably neat, and the ſhops are as clean as if juſt painted. Idle people of all ſorts walk here for amuſement, as well as thoſe who come to buy, and coffee and ſherbet are cried about, as oranges and apples in our play-houſes. The Biſiſtan or Jewellers quarter, is another building of the ſame kind, ſupported on pillars. Here are exhibited vaſt quantities of diamonds and precious ſtones, rich embroideries, and horſe furniture, glittering with gold and jewels. Theſe are the principal places for ſhop-keepers.

THE public Hans, in ſome places called Caravanſeras, are extremely magnificent, many of them taking up a large ſquare, built round with ſhops under ſtone arches, where poor artificers are lodged gratis. They have always a moſque joining to them. The body of the Han contains a noble hall, capable of holding three or four hundred perſons; the court is extremely ſpacious, and the cloiſters round it give it the air of our colleges. In many places theſe Hans are appropriated to the uſe of travellers, who lodge and depoſit their goods in them gratis. But we ſhall defer giving any farther account of theſe laſt ſtructures.

Of

Of the TURKS.

THE Turks are generally well made, and thoſe who dwell in cities have a tolerable fair complexion, while the peaſants, and all who are obliged to be much in the ſun, are ſwarthy. They have commonly black eyes, and their hair is uſually black, or of a dark cheſnut. The men, when young, are tolerably handſome, and the women extremely beautiful; but as they arrive very early at maturity, they ſoon fade, and generally look old at thirty. Few of the Turkiſh ladies paint, for this is almoſt peculiar to the common proſtitutes; but they uſually black their eyebrows; and from a principle of ſtrengthening the ſight, as well as an ornament, they generally black the inſide of their eye-lids, by applying a powder called Iſmed, which is a mineral ſubſtance, reſembling a rich lead ore, and is prepared by roaſting it in a quince, apple, or truffle; it is then levigated with oil of ſweet almonds, on a piece of marble; and if intended to ſtrengthen the ſight, they frequently add flowers of olibanum or amber. This operation they perform with a cylindrical piece of ſilver, ivory, or ſteel, about two inches long, wetting it with water, in order that the powder may ſtick to it; and then applying the middle part horizontally to the eye, they ſhut the eye-lids upon it, and drawing it through between them, it blackens the inſide, leaving a narrow, black rim round the edge. This cuſtom has been practiſed many ages throughout the Eaſt. The women alſo ſtain their feet and hands with henna, which is brought from Egypt chiefly for that purpoſe. The common method is to die only the tips of the fingers and toes, and a few

few spots upon the hands and feet; and leave them of a dirty yellow, the natural tincture of the henna, which has a very disagreeable appearance to an European; but it is more polite to have great part of the hands and feet stained in the form of roses, and various figures, with a dye that is of a very dark green. But in a few days this begins to change, and at last looks as disagreeable as the other. A slender waist is far from being admired by the Turks; and as it is rather considered as a deformity in the ladies, they use all their endeavours to render themselves plump.

THE Turkish habit appears very graceful: the men wear next the skin a pair of drawers, and over them a shirt, and a doliman of sattin, taffety, or other stuff, which reaches to their heels. In winter this is quilted, and girt very tight round the waist with a sash, in which they frequently wear two daggers, the handles and sheaths of which are sometimes adorned with gold, silver, and precious stones. In this girdle they also carry their money, and pouch of tobacco. Over the doliman they wear a sort of night-gown, which the wealthy, in winter, line with furs. Their stockings are of cloth, footed with red or yellow leather; and their shoes of the same colour. On their heads they wear a cap of crimson velvet, round which they wrap a red or white turban, which is a scarf of linen or silk, many ells in length. The Turks shave their heads, and say, "the devil nestles in long hair," yet they are fond of a venerable beard.

THE only writer capable of giving the dress of the woman of rank, in Turkey, was the lady we have already mentioned, ambassadress at Constantinople, and who was therefore of a rank sufficient to gain admission into the Harams of the great,

great. "The firſt part of my dreſs, ſays ſhe, is "a pair of drawers, very full, that reach to my "ſhoes, and conceal the legs more modeſtly than "your petticoats. They are a thin roſe-colour-"ed damaſk, brocaded with ſilver flowers. My "ſhoes are of white kid leather embroidered with "gold. Over this hangs my ſhift of a fine white "ſilk gauze, edged with embroidery. This ſhift "has wide ſleeves hanging half way down the "arm, and is cloſed at the neck with a diamond "button; but the ſhape and colour of the bo-"ſom is very well to be diſtinguiſhed through it. "The antery is a waiſtcoat made cloſe to the "ſhape, of white and gold damaſk, with very "long ſleeves falling back, and fringed with deep "gold fringe, and ſhould have diamond or pearl "buttons. My caftan, of the ſame ſtuff with "my drawers, is a robe exactly fitted to my "ſhape, and reaching to my feet, with very "long, ſtrait, falling ſleeves. Over this is the "girdle, of about four fingers broad, which, all "that can afford it, have entirely of diamonds, "or other precious ſtones; thoſe who will not "be at that expence, have it of exquiſite em-"broidery on ſattin; but it muſt be faſtened be-"fore with a claſp of diamonds. The curdee is "a looſe robe they throw off or put on, accord-"ing to the weather, being of a rich brocade, "(mine is green and gold) either lined with er-"mine or ſables; the ſleeves reach very little be-"low the ſhoulders. The head-dreſs is compoſ-"ed of a cap, called talpoc, which is in winter "of fine velvet, embroidered with pearls or dia-"monds; and in ſummer of a light ſhining "ſilver ſtuff. This is fixed on one ſide of the "head, hanging a little way down, with a gold "toſſel, and bound on either with a circle of dia-

"monds,

" monds, or a rich embroidered handkerchief. " On the other ſide of the head the hair is laid " flat; and here the ladies are at liberty to ſhew " their fancies; ſome putting flowers, others a " plume of herons feathers, and, in ſhort, what " they pleaſe; but the moſt general faſhion is, " a large bouquet of jewels, made like natural " flowers; that is, the buds of pearls, the roſes " of different coloured rubies, the jeſſamines of " diamonds, the jonquils of topazes, &c. ſo well " ſet and enamelled, that 'tis hard to imagine " any thing of that kind ſo beautiful. The hair " hangs at its full length behind, divided into " treſſes braided with pearls or ribbons, which " are always in great quantity."

IT muſt be obſerved that no woman, of whatever rank, is permitted to go into the ſtreets without two murlins, one that hides the whole dreſs of her head, and hangs half way down her back, and another that covers her face, all but her eyes. Their ſhapes are alſo entirely concealed by what is called a Ferigee, which no woman appears without; it has long ſleeves that reach to their fingers ends, and wraps round their bodies like a riding hood: this, in winter, is made of cloth, and, in ſummer, of plain ſilk or ſtuff. By this means they are ſo diſguiſed, that the greateſt lady cannot be diſtinguiſhed from her ſlave: it is impoſſible for the moſt jealous huſband to know his wife when he meets her; and no man dare touch, or follow a woman in the ſtreet. Their appearing thus in maſquerade affords them the liberty of following their inclinations, without being in danger of diſcovery. Their moſt uſual method of intrigue is ſending an appointment for the lover, to meet them at a Jew's ſhop, where the moſt valuable goods are ſold. The great ladies

ſeldom

ſeldom let their gallants know who they are; and frequently they are unable to gueſs the lady's name, with whom they have correſponded above half a year together.

THE Turks who are rich, are far from being ſo abſtemious as many people imagine. Soon after they riſe in the morning, they breakfaſt on fried eggs, honey, leban, cheeſe, &c. At about eleven o'clock in winter, and rather earlier in ſummer, they dine. They have a round table, which, as well as their diſhes, is made, either of copper tinned, or, for perſons of high rank, of ſilver. This is placed upon a ſtool, about twelve or fourteen inches high, and a round piece of cloth is ſpread upon the carpet under the table, to prevent its being ſoiled. A long piece of ſilk is laid round to cover the knees of thoſe who ſit at the table, which has no covering but the victuals. Sallads, pickles, ſmall baſons of leban, bread and ſpoons, are placed in order round the edge; and the middle of the table is for the diſhes; which, among the great, are brought in one by one; and after each has eat a little, they are changed. They ſit croſs-legged at table on the carpet; and their fingers, as in other parts of the Eaſt, ſerve for knives and forks; but for liquids they make uſe of ſpoons of tortoiſe-ſhell, horn, or wood, thoſe of gold and ſilver not being permitted by their religion. Their bread is uſually made of wheat flour, in thin, flat-cakes, ill baked, and eaten new; beſides theſe, there are a variety of ruſks and biſcuits. The firſt diſh is generally a kind of ſoup, and the intermediate diſhes, which are frequently numerous, conſiſt of mutton, cut into ſmall pieces, either roaſted or ſtewed with herbs: ſtewed fowls, pigeons, or other birds, commonly ſtuffed with rice, and ſpices: a

whole lamb ſtuffed with rice, almonds, raiſins, piſtachios, &c. and ſtewed, is a favourite diſh: paſtry, both with meat and fruit: a large pillaw comes laſt, except a thin ſirrup, with dried apricots, raiſins, ſlices of apples, pears, or the like, ſwimming in it. Water is their liquor at table; and after dinner they drink coffee. The lady we have ſo often quoted obſerves, that for the firſt week their cookery pleaſed her extremely; but then growing weary of it, ſhe deſired her cook to make a diſh or two after our manner; but acknowledges that this might be owing to cuſtom, and that ſhe was ready to believe that an Indian, who had never taſted of either, would prefer their cookery to ours. However, with reſpect to the common people, bread, dibbs, leban, and a little mutton, are their principal food in winter; as rice, bread, cheeſe and fruit, are in ſummer. Their chief meal is in the evening, when they return home from work.

THE Turks uſually ſup at about five o'clock in winter, and ſix in ſummer, in much the ſame manner as they dine; and in winter frequently viſit each other, and ſit up late, when they have a collation of ſeveral ſweet diſhes.

WINE and ſpirits are ſuppoſed to be only drank by the licentious and irreligious; and theſe liquors being prohibited by their religion, they commonly drink them in ſecret, at their gardens, or privately in the night; and when they once begin, frequently drink to exceſs. There are others, however, who drink wine with moderation, and ſay in excuſe, that all the creatures of God are good, and deſigned for the uſe of man; yet the prohibition of wine was an act of wiſdom, and deſigned for the vulgar, among whom it would be the ſource of infinite diſorders: but that the

prophet

prophet never intended to reſtrain thoſe who knew how to uſe it with diſcretion; nevertheleſs ſcandal ought to be avoided, and therefore they never drink it in public. This is the opinion of the ſenſible part of the people; few of whom, who are able to afford it, make any ſcruple of drinking wine.

STRONG coffee, without either milk or ſugar, is a refreſhment univerſally eſteemed; and a diſh of it, preceded by a little wet ſweatmeat, which frequently conſiſts of conſerve of red roſes, ſharpened with lemon-juice, and a pipe of tobacco, is the uſual entertainment at a viſit; but if they chooſe to uſe leſs ceremony, the ſweat meat is omitted. When they ſhew an extraordinary degree of reſpect, they alſo preſent ſherbet, which is of different kinds; they likewiſe ſprinkle ſweet-ſcented water, and perfume their viſitor with the ſmoke of the wood of aloes, which is brought in a canſer, and generally ſerves for an intimation that it is time for the ſtranger to take his leave.

THOUGH we are apt to eſteem theſe people as Barbarians, yet their diſtinguiſhing characteriſtic, is politeneſs and hoſpitality. The ingenious Mr. Wood obſerves, on a traveller addreſſing the governor of a province for his protection, and making him, according to the cuſtom of the Eaſt, a handſome preſent, a pipe, coffee, ſweetmeats, and perfume, are ſucceſſively preſented; and he will pay him the compliment of telling him, that the land he commands, and all that is in it, are at his ſervice. "In no inſtances, ſays the above "gentleman, do the oriental manners ſhew theſe "people in ſo amiable a light, as in their diſ-"charge of the duties of hoſpitality: the ſeveri-"ties of Eaſtern deſpotiſm, having indeed been "always ſoftened by this virtue, which ſo hap-

" pily flouriſhes moſt, where it is moſt wanted. " The great forget the influence of power to the " ſtranger under their roof; and only preſerve a " dignity, ſo tempered by humanity, that it ſole- " ly commands that grateful reſpect, which is " otherwiſe ſcarce known in a country, where " inferiors are oftener taught to fear than to love. " But avarice is as much an eaſtern vice, as hoſ- " pitality is an eaſtern virtue. The moſt ſordid " inſtances among the former, we found among " the great, and thoſe in public employments; " while we experienced extraordinary inſtances " of generoſity in private life. We would there- " fore be cautious of charging to the character of " a people, what this government ſeem to re- " quire: for amidſt the uninterrupted ſeries of " ſhameleſs venality, which regulates the diſ- " charge of every private duty, from the Prime " Vizier downwards; and which, in the true ſpi- " rit of deſpotiſm, ſtops only at the wretch, who " is too low to make repriſals, every ſubaltern " in power muſt ſubmit to that proportion of the " common proſtitution, which belongs to his " rank; and which therefore ſeems rather the " vice of the office than of the man." But notwithſtanding the general character of politeneſs, courteſy, and hoſpitality, by which the great are peculiarly diſtinguiſhed, the Mahometans in private life aſſume a ſuperiority over all who are of a different faith; which is beſt perceived by thoſe who dwell for a conſiderable time among them. But this greatly declines, and ſeveral Baſhas have conferred public honours on the Europeans, that would formerly have cauſed great popular diſcontent. Among the vulgar, an affected gravity, with ſome ſhare of diſſimulation, is too much their characteriſtic. They are alſo addicted to quarrelling

quarrelling and abuſive language, though none are leſs guilty of fighting; but though they are ſo prone to anger on the moſt trifling occaſion, no people upon earth can be more calm, when it is for their intereſt; yet there are people who deſerve a much better character; for ſome of all ranks are poſſeſſed of the utmoſt integrity and honour.

NOT only the men, but many of the women, ſmoke tobacco to exceſs; and the labourers and artificers have generally a pipe in their mouths. Theſe pipes conſiſt of a twig of the cherry-tree, or roſe-buſh, bored for that purpoſe; and thoſe of ſuperior rank are five or ſix feet long, and adorned with ſilver. They uſe the Perſian tobacco, which has an agreeable flavour. But the practice of taking opium is much leſs general in Turkey than formerly.

THE Turks have not the leaſt notion of the benefit of exerciſe; and laugh at the European Chriſtians for taking a walk, merely for the ſake of amuſement. Indeed, it is with reluctance they uſe much exerciſe, either for buſineſs or pleaſure. A walk or ride to their gardens once or twice a week, when they are ſituated at a ſmall diſtance from their houſes, is as much as moſt of them care for. People of rank, however, are very active on horſeback, and in throwing the jareed, or ſhort ſtaff, which they dart very dexterouſly on full ſpeed; and a mock fight with this weapon is a common entertainment. It is amazing to ſee, with what dexterity they manage their horſes upon theſe occaſions, ſo as to avoid running againſt each other, when numbers are galloping, ſeemingly in the greateſt diſorder. This is, however, but ſeldom practiſed, their time being chiefly

ſpent in the indolent indulgence of lolling in their Divans.

THEIR principal amuſements within doors are playing at cheſs, at which they are extremely expert, and at a kind of back-gammon. Their other diverſions are playing at draughts, the play of the ring, and ſome others. With this laſt diverſion, the great frequently amuſe themſelves during the winter-evenings: it conſiſts in gueſſing, under what coffee-cup a ring is hid, out of a number of cups placed on a large ſalver. Several on each ſide engage in this play; and thoſe who win, have the privilege of blacking the faces of thoſe who loſe, or of putting fools caps on their heads, and obliging them to ſtand before them, while they ſing extempore ſongs in their own praiſe, and in deriſion of the loſers. But they treat none in this manner but their ſervants, or their inferiors, ſome of whom, particularly, if they have any turn for buffoonery, are always of the party. All theſe games are uſed by the Turks only for amuſement; for they never play for money, though they will ſometimes go ſo far as to play for an entertainment. Dancing is far from being reckoned an accompliſhment among people of rank, and is ſeldom practiſed by any but thoſe who make a trade of it. Their dexterity conſiſts leſs in their agility, than in the motions of their arms and body, and uſing geſtures, which, particularly among the female dancers, are not the moſt decent. Wreſtling is alſo ſometimes a part of their entertainment at their feſtivals; this is performed by men hired for that purpoſe. They have likewiſe buffoons, who conſtantly attend all merry-makings.

THE Turks have two ſorts of muſic, one for the field, and the other for the chamber. The

firſt

firſt is performed before the great military officers, and is always uſed in their garriſons. It conſiſts of trumpets, cymbols, hautboys, ſhorter and ſhriller than ours; and large drums, the upper part of which is beat upon with a heavy drum-ſtick, and the lower, with a ſmall ſtick: they have alſo ſmall drums, which are beat after the manner of our kettle drums: this muſic has a pretty good affect at a diſtance. Their chamber muſic conſiſts of a guitar, an Arab fiddle, a dulcimer, different ſorts of flutes, a couple of ſmall drums, and the diff. This laſt inſtrument chiefly ſerves to beat time to the voice, which is frequently very inharmonious: it is formed of a hoop, over which a piece of parchment is extended; and ſometimes pieces of braſs are fixed in it, to make a jingling. It is beat with the fingers, and is the true tympanum of the ancients. The Turks, though acquainted with the different meaſures uſed in muſic, have no idea of writing it by notes, and are therefore obliged to learn entirely by the ear; and when ſeveral perſons play together, they keep exact time, all playing the ſame, for they have neither baſe, nor any other parts. According to ſome authors, the Turks have no muſic but what is ſhocking to the ear; but they probably never heard any but what is played in the ſtreets; and their account, as the lady Wortley Montague obſerves, is juſt as reaſonable, as if a foreigner ſhould take his ideas of Engliſh muſic, from the bladder and ſtring, or the marrow bones and cleavers. Their muſic being extremely pathetic, and many of the women have fine melodious voices.

OUR account of the cuſtoms of the Turks would be very imperfect, were we to omit mentioning the public bagnios, which are frequented

by perſons of all conditions, except thoſe of a very diſtinguiſhed rank, who have them in their own houſes. On entering a bagnio, you come into a large lofty room, in the midſt of which, is uſually a fountain with a baſon. This apartment is ſurrounded with ſophas; and here the people dreſs and undreſs, the air not being affected by the heat of the bath, except at the door, which opens into a ſmall, warm room, and from thence into a larger, that is very hot. About the ſides of theſe rooms are uſually placed round ſtone baſons, about two feet and a half in diameter, with two cocks, one of hot, and the other of cold water; ſo that it may be tempered at pleaſure; and there are copper bowls for pouring it on the body. In the corners of the inner room are ſmall retiring places, in one of which is frequently a ciſtern of warm water, about four foot deep, large enough for bathing the whole body. All theſe rooms are covered with domes; and the inner receive their light from openings in the dome covered with glaſs. A few bagnios are ſolely for the uſe of the men, others are appointed for the women only; and many of them admit both ſexes; the men in the morning, and the women in the afternoon. When a man enters the hot room, he firſt applies the Dewa, a medicine for taking off the hair from the arm-pits and pubis; and this remains till the hair is quite looſe, when it is waſhed off with great care. After this, one of the ſervants of the bagnio begins with chafing or kneading violently, firſt, the tops of the ſhoulders, and then, by degrees, the whole body. On his coming to the hands, he pulls the joints of the fingers ſo as to make each crack ſeparately; then laying the perſon on his back with his arms acroſs his breaſt, he raiſes him forcibly

by

by the back part of the neck, making the greateſt part of the vertebræ crack. Then chafing the back a little more, he throws a quantity of warm water over the whole body, and rubs him hard with a bag of coarſe cloth, drawn over his hand. He is next rubbed over with a ſoap lather; and this being waſhed clean off, the perſon puts one towel round his middle, another round his head, and a third, perhaps, over his ſhoulders; then returning to the great room, he uſually ſmokes a pipe, drinks coffee, and, perhaps, eats ſome fruit before he dreſſes. This method is practiſed in much the ſame manner, not only through all the Turkiſh dominions, and in Perſia, but in India, where it is eſteemed a great luxury, and has an extraordinary affect on the ſpirits.

As the right honourable lady, from whoſe letters we have borrowed ſeveral curious particulars, is the only writer who was ever able to deſcribe the baths for the women, and their behaviour at them, we ſhall take the liberty of borrowing this account from that elegant writer. Round the room, ſays ſhe, were two rows of ſophas covered with cuſhions and rich carpets, on which ſat the ladies, and on the ſecond their ſlaves behind them, all in the ſtate of nature, without any beauty or defect concealed; yet there did not appear the leaſt wantom ſmile, or indecent geſture. They walked and moved, with the majeſtic grace, with which Milton deſcribes our general mother. Many among them were as finely proportioned as ever any goddeſs was drawn by the pencil of a Guido, or a Titian; and moſt of their ſkins were of a ſhining white, only adorned by their beautiful hair, divided into many treſſes, hanging on their ſhoulders, braided either with pearls or ribbons, and perfectly reſembled the figures of the

graces. Our fair author here obſerves, that ſhe was now convinced of the truth of a reflection that ſhe had often made, that were it the faſhion to go naked, the face would hardly be obſerved; for the ladies, who had the moſt delicate ſkins, and fineſt ſhapes, had the greateſt ſhare of her admiration; though their faces were ſometimes leſs beautiful than thoſe of their companions. They were in different poſtures, ſome in converſation, ſome drinking coffee or ſherbet, others working, and many lying negligently on their cuſhions, while their ſlaves, moſt of whom were agreeable young women of about ſeventeen or eighteen, were employed in braiding their hair, in ſeveral curious fancies. Theſe baths may be conſidered as the women's coffee-houſe, where all the news of the town is told. They uſually take this diverſion once a week, and ſtay there at leaſt four or five hours; but it is ſurpriſing they do not get cold, by immediately coming out of the hot bath into the cool room. It muſt be obſerved, that it is death for any man to get admiſſion to theſe bagnios, during the time the ladies are there.

THE ſame illuſtrious lady gives us a deſcription of the ceremonies obſerved at the reception of a Turkiſh bride, at one of theſe bagnios. All the female friends, relations, and acquaintance of the two families, newly allied, meet on this occaſion at the bagnio; and others going out of curioſity, there are ſometimes near two hundred women preſent. Thoſe who were married when this lady was preſent, placed themſelves round the rooms on the marble ſophas; but the virgins haſtily threw off their cloaths, and appeared without any other ornament or covering than their own long hair, adorned with pearls or ribbons. Two of them met the bride at the door, conduct-

ed

ed by her mother and another grave relation. She was a beautiful maid of about ſeventeen, very richly dreſſed, and ſhining with jewels; but was ſoon reduced to the ſtate of nature. Two others filled cenſers of ſilver gilt, with perfume, and began the proceſſion, the reſt following in pairs, to the number of thirty, the leaders ſinging an Epithalium, anſwered by the others in chorus; and the two laſt led the fair bride, whoſe eyes were modeſtly fixed on the ground, round the three large rooms of the bagnio. The bride was then led to every matron round the rooms, and by each was ſaluted with a compliment and a preſent, ſome of jewels, others of pieces of ſtuff, handkerchiefs, or little gallantries of the like nature, which ſhe thanked them for, by kiſſing their hands.

THE women are generally married from the age of fourteen to eighteen; but the bride and bridegroom never ſee each other, till the ceremony is performed. The mothers, in order to find a proper wife for their ſons, introduce themſelves into company, where they expect to ſee young women who are diſengaged; and when they find one, they think will be agreeable, make the propoſal to her mother. Upon which the girl's family enquire into the young man's character and circumſtances; and if they are like to agree, his father makes a formal demand of her; the price is fixed that is to be paid for her, and a licenſe procured for their marriage. Then each of the young folks fix upon a proxy, who meet the Imaum, and the male relations. The Imaum aſks one of the proxies, if he is willing to purchaſe the bride for ſuch a ſum of money; and the other, whether he be ſatisfied with it; which being anſwered in the affirmative, he joins their hands, and the money being paid, the affair is concluded with a

prayer out of the Coran. The ſum paid for the bride is laid out in furniture, for one chamber, with cloaths, jewels, and other ornaments; and her father makes ſome addition, according to his circumſtances. All theſe are ſent with great pomp to the bridegroom's houſe, three days before the wedding; mean while he invites all his friends and acquaintance, and a kind of open houſe is kept for ſeveral days. On a day appointed the women go from the bridegroom's houſe, and bring home the bride, accompanied by her mother and other female relations, when each ſex makes merry in ſeparate apartments till night. The men having dreſſed the bridegroom, introduce him to the door of the women's apartment, where he is met by his own female relations, and the men proceed ſinging and dancing before him to the ſtairs foot of the bride's apartment, when ſhe is brought half way down ſtairs to receive him, veiled with a piece of red gauze; and he having conducted her up ſtairs, they are left to themſelves.

A WOMAN that dies unmarried is thought to depart this life in a ſtate of reprobation; for they ſay, that the end of the creation of woman is to encreaſe and multiply, and that ſhe is only properly employed in the works of her calling, when ſhe is bringing forth children, or taking care of them, which are all the virtues that God expects from her. Hence many of thoſe who are ſuperſtitious, are no ſooner widows than they marry again as ſoon as they can, for fear of dying in the wicked ſtate of an uſeleſs creature. But thoſe that are fond of liberty, and are not very ſcrupulous, defer marrying till they are afraid of dying. Among the Turks it is a greater diſgrace to be married without being fruitful, than it is with us for a woman to be fruitful before marriage. They are

reſpected

reſpected according to the number they produce; and therefore, when they are with child, it is uſual for them to ſay, they hope God will be ſo merciful as to ſend them two this time. Like the women of many other nations, they ſeem exempt from the curſe entailed on the ſex; for the ladies ſee company on the day of their delivery, and at the fortnight's end, return viſits in new cloaths, and adorned with jewels. The Turks, however, keep their wives at home as much as they can, but let the huſband be ever ſo jealous, he is obliged to ſuffer them to go frequently to the bagnio, and Mondays and Tueſdays are a kind of licenſed days for their viſiting the tombs of their deceaſed relations, which gives them an opportunity of walking abroad in the gardens or fields.

A MAN may divorce his wife twice, and if he afterwards repents, may take her again; but that they might not divorce their wives upon every ſlight occaſion, and merely from caprice and humour, Mahomet ordained, that if any man divorced his wife a third time, it ſhould not be lawful for him to take her again, till ſhe had been married, and divorced from that huſband. This precaution has ſuch an effect, that the Turks ſeldom divorce their wives; and ſcarce any, who have the leaſt ſenſe of honour, will take her again on the laſt condition.

UPON the death of a Turk, the women burſt forth into ſhrieks, which they continue till the body is interred, which is done as ſoon as poſſible. The corpſe is firſt carefully waſhed, and all the natural paſſages ſtopped with cotton, to prevent any moiſture oozing out, which would render the body unclean. It is then wrapped in a cotton cloth, and laid in a coffin, nearly in the form uſed by us; and upon the pall are laid ſome

of

of the beſt cloaths which belonged to the deceaſed. In carrying the body to the grave, a number of ſhieks, with tattered banners, walk firſt; then come the male friends; and after them the corpſe, carried with the head foremoſt, upon men's ſhoulders. The corpſe is followed by the neareſt male relations; and the women cloſe the proceſſion with dreadful ſhrieks, while the men are all the way employed in ſinging prayers out of the Coran. In this order they proceed to a moſque, where the bier being ſet down in the court-yard, a ſervice is ſaid by the Imaum, after which the corpſe are carried in the ſame order to the burying-place, which is uſually placed in the fields. The graves are lined with ſtone, and the corpſe is placed in one, in a poſture between ſitting and lying, with the face towards Mecca; and then the grave is covered with long ſtones, to prevent the earth falling into it. The Imaum throws the firſt handful of earth upon theſe, ſaying, O man, from the earth thou wert at firſt created, and to the earth thou doſt now return. This grave being the firſt ſtep in thy progreſs to the manſions of the other world, if in thy actions thou haſt been benevolent, thou art abſolved by God; but if on the contrary thou haſt not been ſo, the mercy of God is greater than all things. Remember that God is thy Lord, Mahomet thy Prophet, believe in all the Prophets and Apoſtles, and pardon is extenſive. Then every one throws down a handful of earth, ſaying, God be merciful to the deceaſed. The ſepulchres of particular families are railed in, and the burying-places take up a conſiderable ſpace round the cities. The neareſt relations pray at the grave, on the third, ſeventh, and fortieth days, after the interment; and alſo on the day twelvemonth after the perſon's deceaſe; and

and on each of those days, a quantity of provisions is dressed, and given to the poor. Every Monday and Tuesday the women adorn the tomb with flowers, or green leaves, shewing the deepest grief; while the men, generally acquiesce with the greatest patience in the loss of their nearest relations; and under every other misfortune, behave with the utmost fortitude. The men wear no mourning, but the women dress in the gravest coloured cloaths, and wear a head dress of a dark brick dust colour. They lay aside their jewels, and all other ornaments for the space of a year, when they mourn for a husband; and six months if it be for a father; but these periods are not always strictly observed.

MAHOMETISM is said to be divided into as many sects as Christianity. Its first institution seeming to be entirely obscured by different interpretations; but though the Turks behave with the utmost zeal in the support of their opinions, the spirit of persecution against each other, has never been carried to such a height as among the Christians. The prevailing opinion is said to be Deism; but no Turk ever sets up for a wit by pretending to disbelieve a God, or by treating his sacred name with familiar contempt. Charity is enjoined in the Coran, in the strongest terms; and the Turks are remarkable, not only for their benevolence to the poor and the distressed; but for their preventing the unfortunate being reduced to necessities. They build Kans, or Caravanseras for the reception of travellers, erect cisterns of water for their convenience, and set up sheds by the way side, that the weary traveller may sit under the shade.

THEY give names to their children as soon as they are born; at which time the father, putting a little salt into their mouths, and lifting them on high, as dedicating them to the Great Creator, cries

cries out, God grant my ſon Solyman, that his holy name may be as ſavoury in thy mouth, as this ſalt; and may he preſerve thee from being too much in love with the world. They believe that the infants who die young, before they are circumciſed, are ſaved by the circumciſion of their father; and therefore this is ſometimes deferred, till they are twelve or fourteen years of age, when they are able to make a profeſſion of their faith. On the day fixed for this ceremony, the boy is ſet on horſeback, and conducted with muſic about the town; after which the ceremony of circumciſion is performed in the following manner, at his father's houſe: after a ſhort exhortation, the Imaum or Prieſt, cauſes him to make his profeſſion of faith, by ſaying, "There is no God but God, "and Mahomet is his Prophet." The ſurgeon then places him upon a ſopha; and two ſervants holding a cloth, ſpread out before the child's face, the ſurgeon draws the fore-ſkin as low as he can, holding it with pincers, while he cuts it with a razor, and then ſhewing it to the aſſiſtants, cries, God is Great. The child cries out with pain; but every one congratulates him on his being admitted to the rank of a Muſſulman, or Believer; and on this occaſion a feaſt is made, and the relations and friends ſpend the day merrily in ſinging and dancing; and the next day, thoſe who are invited, make preſents to the child.

THE Turks regularly pray five times a day, and are obliged to waſh before their prayers, and every time they eaſe nature. As they chiefly make uſe of their fingers in eating, they are alſo under the neceſſity of waſhing after every meal; and the more cleanly likewiſe, do it before meals. Beſides, whenever they cohabit with their women, they muſt go to the bagnio, before they ſay their prayers;

prayers; thus they are dabling in the water almoſt all day long.

We ſhall defer treating of the faſt of Ramadam, till we treat of the Perſians, both performing it in the ſame manner; and ſhall here deſcribe the feaſt of Beiram, which begins with the next new moon after that faſt; and is made known by firing of guns, bonfires, and other rejoicings. The houſes and ſhops are then adorned with the fineſt hangings, and tapeſtries. Swings ornamented with feſtoons are hung in the ſtreets, in which the people ſit, and are toſſed in the air, while they are at the ſame time entertained with vocal and inſtrumental muſic, performed by perſons hired by the maſters of the ſwings. They have likewiſe fire-works; and during the three days of this feſtival, the women have the liberty of walking abroad. One valuable part of this feſtival is, that they forgive their enemies, and become reconciled to them; for they think they have made a bad Bairam, if they harbour the leaſt malice in their hearts againſt any perſon whatſoever. This is termed the Great Bairam, to diſtinguiſh it from the Little Bairam, which is kept ſeventy days after. They have alſo ſeveral other feſtivals, on all which the minarets of the moſques are illuminated with lamps.

There are a few monaſteries of Derviſes, whoſe devotions and religious ceremonies are performed in a very whimſical manner. They are permitted to marry, and have an odd habit, which only conſiſts of a piece of coarſe white cloth, or a looſe frock, wrapped about them with their legs and arms naked.

With reſpect to the puniſhments inflicted on criminals in Turky; theſe, as in other arbitrary countries, are very often ſevere. The moſt ſingular

gular of these is impealing, which is generally inflicted for the highest crimes, and is certainly one of the greatest indignities that can be offered to human nature, and is performed in the following manner: they take a post eight or nine feet long, about the thickness of a man's leg, which they make sharp at one end, and oblige the criminal to carry it to the place of execution, where, laying him on his belly, they thrust it into his fundament, and taking him by the legs draws his body upon it, till the point of the stake appears at his shoulders; they then erect the stake in a hole, dug in the ground, when, according to the Reverend Mr. Maundrell, the unhappy wretch, sitting in that posture, not only continues alive, but even perfectly sensible, and sometimes drinks, smokes, and talks, for twenty-four hours; but generally, after he has remained in this deplorable situation for an hour or two, one of the bye-standers is permitted to give him a gracious stab to the heart, in order to put an end to his inexpressible misery.

THE other punishments for capital offences are beheading, and strangling with the bow-string, and for small offences, the bastinado.

THE Turks have several curious and beautiful manufactures; and carry on a very considerable inland trade with the provinces and towns, and also with foreign nations; though it is chiefly by means of the Jews and Armenians. The Turks, indeed, convey the products of the country and other goods both by land and water, from one province to another, but not to foreign Christian countries: great numbers of English, French, Dutch, Italian, and Spanish ships, repairing to the harbours in Turky where they import their goods, and purchase those of the country. The exports from

from Turky are ſilks, beautiful carpets, camels hair, goats hair and wool, cotton-yarn, waxed linen, dimity, blue, red, and yellow leather, ſha-green ſkins, coffee, dates, almonds, oil, figs, raiſins, rhubarb, ſaffron, opium, turpentine, ſtorax, gums, galls, maſtich, emery, lemnian-bole, pomegranate ſhells, ſponges, wax, box-wood, mother of pearl, &c. The Engliſh merchants export thither ſugar, watches, broad cloths, long ells, iron, tin, and many other articles.

HAVING thus taken a view of what is moſt remarkable in the European part of the Turkiſh empire, we now proceed to their Aſiatic dominions.

PART

PART II.
Of ASIA.

CHAP. I.
Of TURKY in ASIA.

WE are now entring into a part of the world in many reſpects the moſt conſiderable of the four, though a natural fondneſs for our own country is apt to incline us to give the preference to Europe. It was in Aſia that the Supreme Creator planted the delicious garden of Eden, in which he placed the firſt parents of mankind; and Aſia became again the nurſery of the world when it had been deſtroyed by the flood, the deſcendants of Noah diſperſing from thence their various colonies into all the other parts of the globe. It was in Aſia that God choſe to fix his favourite nation the Hebrews; in the ſame country our Bleſſed Saviour accompliſhed the great work of our redemption, and from thence the light of his glorious goſpel was ſpread into all nations by his diſciples and followers. In Aſia the firſt cities were built, and the firſt monarchies were founded, even whilſt the reſt of the world was deſtitute of inhabitants.

To theſe advantages may be added the fertility of the ſoil of Aſia in general, the ſerenity of its air, the deliciouſneſs of its fruits, the ſalubrioufneſs of its drugs, the fragrancy and balſamic quality of its plants, gums, ſpices, &c. the variety,

variety, beauty, and value of its gems, the fineneſs of its ſilks, the richneſs of its metals, and many more of the like nature; on which account it has always been looked upon as a charming part of the world, though in ſome reſpects it has had a rival ſince the diſcovery of America. It muſt be owned, indeed, that ſince the Turks have been in poſſeſſion of a very conſiderable part of Aſia, it has quite loſt its ancient ſplendor, and countries naturally rich and fertile are almoſt reduced to a wild uncultivated deſert: but notwithſtanding all the indolence and tyranny of the Turks, their Aſiatic dominions afford a great many valuable commodities, for which they are reſorted to by merchants of other nations. Theſe countries likewiſe afford the Antiquarian abundant matter of amuſement, being overſpread with the ruins of great and opulent cities, celebrated both in ſacred and profane hiſtory, the chief whereof will be deſcribed hereafter; but we ſhall firſt conſider a few articles belonging to the mineral or foſſil kingdom.

FOSSILS.

A VERY remarkable curioſity of this claſs is the Soap Earth, which Dr. Smith informs us is found only in two places near Duraclea, a village about ſix leagues to the eaſtward of Smyrna. It is a whitiſh earth, and in effect a fine ſoap, boiling out of the ground, and is always gathered before ſun-riſe, in mornings when there falls no dew. In ſome places it comes up an inch or two above the ſurface of the ground, but when the ſun ſhines upon it, it ſinks down again. Every morning there is a new crop, though all was gathered that appeared the day before. The ſoil that produces it lies low, and is marſhy in the winter;

winter; so that a stock for the whole year must be laid up in the summer-months. At the soap-houses they mix three fourths of this earth with one of lime, and dissolve the composition in boiling water; and stirring it often with a stick, there floats at top a thick browniſh matter, which they scum off and preserve in basons by itself, being much richer than the liquor underneath, though both are used in making the soap. They then put a proper quantity of oil into a large copper, with a strong fire under it, and when the oil boils they throw into it alternately some of the scum, and some of the liquor from whence the scum was taken; and this they repeat for thirteen or fourteen days together, in which time the soap is usually perfected, when it is taken out of the boiler, and laid upon a lime-floor to dry and harden. An ordinary soap-house (says our author) produces a thousand dollars a year clear profit, one year with another.

THE Samian earth is a white soft marle, found no where in the world that we know of but in the island of Samos, and which was much esteemed by the ancients, who prepared it by burning and washing, and then used it with great success internally in fluxes of all kinds, and externally in inflammations. This marle does not lie in a regular stratum among other earths, but is found in the perpendicular fissures and horizontal spaces between the strata of a hard greyish stone. It has an astringent taste, and its virtues are much the same with those of the Lemnian earth.

FROM Sinope, a city of Anatolia on the Black Sea, a very fine sort of earth or ochre takes its name, it being the Rubrica Sinopica of the ancients, so called, because it was carried to that city for sale, though dug up in Cappadocia. It

is

is a close, compact, and weighty earth, of a glowing purple colour, but in some specimens much deeper than in others, and some degenerating into paleness. It is of a pure texture, but not very hard, though it does not easily crumble or break between the fingers. It has an austere astringent taste, adheres firmly to the tongue, melts slowly in the mouth, and leaves not the least grittiness between the teeth. This earth, like the Samian, is found in the perpendicular fissures of stone, and among iron-ores, sometimes lying at great depths, and sometimes at the very surface. Its fine texture and high florid colour makes it worthy the attention of the painters, and its great astringency renders it valuable in medicine. The ancients were well acquainted with it as an astringent, in fluxes and hæmorrhages of all kinds.

But of all the earths used in medicine, none seems to have been more deservedly esteemed than what we call Bole Armenic or Armenian Bole, being anciently, as well as at present, found in Armenia. The true Bole Armenic of Galen, which that excellent physician first introduced into medicine, and used with success in the time of a terrible plague at Rome, was of the yellow kind, and is confessedly a most valuable astringent, and also commended as an alexipharmic and sudorific. This sort is perhaps the best medicine of all the earths, and, though seldom known or looked for amongst us, might easily be procured, great quantities of it being annually dug out of a pit in the mountains to the north-east of Erzerum. There is also a white sort, which is scarcer, and unknown in our shops, the reddish kind now passing among us for the true Bole Armenic; and a good medicine it is, if we had it genuine, but instead of that, we are imposed

poſed upon by a compoſition of tobacco-pipe-clay, and an ochre, known by the painters under the name of Spaniſh brown. This red ſort is found abundantly in the north-eaſt parts of Armenia, ſometimes in ſtrata ſeven or eight feet thick, never lying very deep, and often appearing on the ſurface. It is a pure and valuable earth, of a compact texture, and indeed the hardeſt of all the boles, being not eaſily broken, and ſtaining the fingers a little in handling. It does not ſoon diſſolve in water, but melts readily enough in the mouth, and leaves not the leaſt grittineſs.—As to its virtues, it is a good aſtringent, and has ever been accounted ſerviceable in the plague, malignant fevers, dyſenteries, ſpitting of blood, and hæmorrhages of all kinds; but, as we have intimated before, it is ſeldom or never to be found genuine in our ſhops.

NOTWITHSTANDING we have heretofore given ſome account of the agate *, we think it neceſſary to ſay ſomething here of a very elegant and beautiful ſpecies of it, called by our lapidaries the Mocoa-Stone, as being carried, for the convenience of ſale, to Mocoa or Mocha in Arabia, tho' produced in the Eaſt-Indies. This ſtone is of a compact and fine texture, of an irregular ſurface, uncertain in ſhape and ſize, but moſt frequently of the figure of the ordinary flinty pebbles, and from one to eight inches in diameter. The veins of it are prettily diſpoſed in various figures, but generally in the form of many concentric circles, drawn round one or more different points in different places. In divers parts of the ſtone it is common to find beautiful delineations of trees, moſſes, ſea-plants, and ſuch-like figures, ſo elegantly expreſſed, that many have believed real

* See Vol. I. p. 211.

moſſes

moſſes and ſea-plants included in its ſubſtance. This, however, is an abſolute miſtake; the true hiſtory of thoſe figures (according to Dr. Hill) being no more than this, that the ſtone is ſubject, like our common flints, to imperceptible cracks or flaws, into which the ſteams or effluvia from minerals and other foſſil bodies, continually pervading the whole ſtructure of the earth, find their way, and perhaps ſometimes water itſelf may get within them. Now we are ſenſible, that either water or theſe vapours may be capable of leaving a black tinge on the ſurface of bodies they have long remained on; and theſe finding a paſſage into the natural cracks and ſmall crevices of the ſtone, have from the ſides of theſe inſinuated themſelves farther and farther into the maſs, and run into branched figures; or the water, where originally included in ever ſo ſmall a quantity, has, as the ſtone contracted more firmly, ſpread and diffuſed itſelf into the various detached figures we are ſpeaking of; for all the delineations in theſe ſtones may be referred either to theſe detached figures, or cloudy ſpots, or to thoſe which evidently ariſe from the ſides of a long crack or fiſſure. That ſteams or mineral effluvia pervade almoſt all foſſil bodies, is proved from numerous inſtances; but what makes moſt for the preſent purpoſe is, that we find them wherever there have been cracks, in many of the harder kinds of the Septariæ, frequently affording what naturaliſts call Dendritæ, or fuliginous delineations of trees, &c. which far excel thoſe of agates, and would be ineſtimable, were they in as valuable a ſubſtance. The very ſurfaces of the Septariæ are often over-ſpread with them, and even ſo poor and low a ſubſtance as chalk is not without theſe delineations, and thoſe more beautiful than what we admire in agates.

But that they are not real remains of vegetables, every one muſt needs be convinced, who obſerves the multitude of figures not in the vegetable world, nor indeed in nature, otherwiſe than in theſe elegant diffuſions of a ſubtile matter by which they are formed, juſt like the branched figures between two levigating ſtones at the colour-ſhops, the ramifications of ſalts in chymical veſſels, and the elegant figures of plants, &c. in the hoar-froſt on windows.—We have ſomething from Germany that imperfectly reſembles the Mocha Stone, but it is only a baſer agate with various delineations, which may happen, as we have ſhewn, to any ſtone, and are common, in ſome degree, even to our Engliſh pebbles.

SEVERAL kinds of Onyx are found in Arabia, particularly a very elegant ſpecies with whitiſh and yellow zones, properly the yellow ſardonyx. The orange-ſardonyx, or bluiſh-white onyx, with orange-coloured and whitiſh zones, is alſo to be met with in that country as well as others. But perhaps the moſt ſingular ſpecies of this gem is what the moderns call Camea, the Arabian onyx of the ancients, which, in the hand of the ſculptor, is often ſeen to make a beautiful figure. It is moderately compact and firm, of a ſmooth and equal ſurface, generally of a roundiſh form, but ſometimes broad and flat, in which laſt form it is the leaſt valuable, the pieces being ſmaller than the round ones, and ſubject to tranſverſe or perpendicular flaws and fiſſures, which often divide a ſtone into bits not worth the working. The zones of this ſpecies are very hard and thick, of no colours but black and white, and thoſe ranged in a regular alternate order, but not very regular in their breadth. In ſome maſſes indeed they are nearly equal, but in others the black zones are ſometimes very

very broad, and the white ones very narrow, and *vice versâ*; and this now and then in different parts of the same mass. The crystalline Nucleus or basis in this species is the only part that is of any degree of purity, the zones being so dull and opake, that the stone may easily be mistaken for marble; but as it is considerably hard, and capable of a fine polish, it has always been esteemed by the jewellers and lapidaries, for the cutting of heads or other figures.

THE Opal, a gem of a very peculiar kind, and much valued in all ages, is likewise found in Arabia, and that in greater perfection than in Europe. It is softer than any other of the fine gems, and not easily polished; but being naturally of a smooth surface and tolerable gloss, some of the best of them are worn with their native polish only. It is found of various sizes, but most frequently between that of a pea and a horse-bean; though sometimes it is met with as small as the head of a pin, and sometimes as large as a walnut. Its shape is likewise uncertain, some being irregularly oblong, others perfectly round, and others in the form of a kidney. Its colour is of so mixed a nature, that it is not easy to be described, being something like the finest sort of mother of pearl, but far exceeding that in lustre and transparency. As it is variously turned about, it shews the colours of almost all the other gems, having the yellow of the topaz, the blue of the sapphire, the green of the emerald, the red of the ruby, and the fire-colour of the carbuncle, when held against the sun. All these colours (besides a white milky cast) are of a fine brightness and lustre, but are only the effect of different reflections of light falling on it in different angles, and not permanent and unalterable in the stone, like the single colours of other

gems; for the small fragments of opal do not shew them, but are of a pale blueish or pearly grey, which is properly its genuine colour. Some opals want one or more of the above-mentioned colours, and are liable to be tinged with a deep blueish black; in which last case the gem shews no colour but its red in any light or position, but then the red appears more than usually glowing and fiery, and seems lodged very deep in the stone; so that in this state, which is but an imperfect one, it has an excellency beyond even its finest specimens. The opal, of all the gems, is the most difficult to be exactly counterfeited *.

THE Asiatic dominions of the Turks (wherein we include the whole of Arabia, though part of it is subject to independent princes) afford abundance of copper and other metals, which we have spoken of sufficiently in Europe, and therefore they require no farther notice in this place: and of the various kinds of marble which these countries produce, we need only describe two or three of the most remarkable. A snow-white lucid alabaster, which Dr. Hill takes to be the Lygdine marble of the ancients, is found in immense strata in Arabia, though not peculiar to that country. This is a

* Mr. Colepress, in the Philosophical Transactions, tells us of a counterfeit sort of opal made at Haerlem in Holland, which he says is very lively, and supposes the several colours to be produced by different degrees of heat. When the composition is thoroughly melted, some of it is taken out on the point of an iron-rod, which being cooled, either in the air or water, is colourless and pellucid: but being put again into the mouth of the furnace upon the same rod, and there turned round for a little time, its particles acquire such various positions, that the light falling on them, being variously modified, represents the several colours seen in the natural opal. He adds, that these colours may be destroyed and restored again by different degrees of heat, putting the particles into different motions.

most

moſt beautiful and elegant ſtone, of a whiteneſs far ſurpaſſing the famous Parian marble, or that of Carrara in Italy, and indeed is the moſt ſplendid of all the marble claſs. It is always found perfectly pure, is moderately hard in the maſs, but ſomewhat crumbly in ſmall pieces, cuts very freely, and is capable of a beautiful poliſh. This ſtone, which is ſeldom brought to England, tho' plenty of it might be had, is what our more judicious workmen properly term White Alabaſter; for that name is given indiſcriminately to the white marbles in general. Dr. Hill recommends this elegant marble to the ſtatuaries, for the making of it, as the ancients did, vaſes and ſuch-like ornamental furniture, which were never more eſteemed than in the preſent age.

THERE are alſo vaſt ſtrata of a fine ſpecies of porphyry found in Arabia Petræa, as well as in the Upper Egypt. This is a roughiſh ſort of marble, of a very compact and firm texture, conſiderably heavy, and of a pale fleſh-colour, variegated with black, green, and white, in large blotches, from half an inch to an inch broad, and ſometimes (though very ſeldom) diſpoſed in irregular veins. It breaks with a tolerably even ſurface, and appears very lucid in all its parts, but rather gloſſy than glittering. It is extremely hard, takes a fine poliſh, and is ſo tranſparent, eſpecially in the green parts, that one may ſee deep into its ſubſtance. The red, white, and green parts of this elegant marble, appear tabulated, reſembling greatly the foliaceous talcs, but with an additional brightneſs; and the black are the ſame in all reſpects, only debaſed by a large mixture of earth, which makes them evidently ſofter than the reſt of the ſtone. The white and fleſh-coloured parts are ſlightly debaſed by an earth of thoſe co-

lours; but the green, which have usually a fine metalline tinge, like that of the gems, are the brightest of all, and almost perfectly transparent.---Separate nodules of this porphyry are frequently found in Germany and Ireland, and in some parts of England.

WE shall only add, that Arabia likewise affords plenty of a red granite, variegated with white and black, which, for its extreme hardness and beauty, has always been in the highest esteem. This is the Syenites of Pliny, and the Oriental Granite of the moderns; but very fine pieces of it may be found without going any farther than the west of England. It is of a very firm and compact texture, naturally breaking with a rough surface, considerably bright and glittering in all its parts, and capable of a most elegant high polish. From the mineral let us now proceed to the vegetable kingdom.

VEGETABLES.

AS we are now in Arabia, it seems natural to begin this article with the productions of that country, and in the first place to describe the Coffee-Tree, whose seeds or berries afford us such an agreeable liquor. This tree, or rather shrub, which grows plentifully in Arabia Felix, generally rises to the height of seven or eight feet, and sometimes to twelve, having a trunk from ten to fifteen inches in circumference. It is covered with a grey smooth bark, and shoots out, through the whole length of its stem, a growth of branches which are always opposite to each other. The leaves, which somewhat resemble those of the bay-tree, are ranged in pairs in the same manner; and from the bottom of these spring fragrant white flowers, very much like those of the jessamine, of which

which ſome reckon the coffee-ſhrub a ſpecies. When the flowers fall, they leave a ſmall fruit behind, which is green at firſt, but reddens as it ripens, and is like a hard cherry both in ſhape and colour. Two, three, or more of theſe berries, grow together on the ſame part of the twig, each coated with a huſk or tegument incloſing another finer ſkin, in which two ſeeds or kernels are contained, which are what we call Coffee. The fruit is uſually gathered in May, which is done by ſhaking the trees, the berries falling on cloths ſpread underneath to receive them. Theſe being laid on mats to dry in the ſun, the outer huſks are opened and ſeparated by drawing rollers of wood or iron over them; after which the berries are expoſed to the ſun a ſecond time, and then ſifted clean for uſe or ſale. The huſks, however, are not waſted; for the Arabs roaſt them as we do the berries, and the drink made of them, having a little tartneſs, is very cooling and pleaſant in the heat of ſummer.—The coffee-trees are propagated by the ſeed when perfectly ripe, and are diſpoſed of in nurſeries to be tranſplanted as there is occaſion. They require a rich mould, and thrive beſt about the bottom of mountains and little hills which are moiſt and ſhady. In times of drought they are watered by artificial canals cut from rivers or ſprings, and in conducting little ſtreams of water about their roots; conſiſts the chief part of their cultivation. It was formerly imagined, that the Arabians ſteeped their coffee-berries in boiling water, or uſed ſome other means before their exportation, to make them unfit for growth, that they might not be deprived of the profits of the plant, by its propagation in other countries: but this miſtake was owing to the difficulty of raiſing the ſhrub from ſeed, unleſs ſown immedi-

ately after it is gathered. Of late years, however, the plant has been cultivated with ſucceſs at Fort St. George, the Cape of Good Hope, Batavia, and other places; and the iſland of Jamaica now produces it almoſt in as great perfection as Arabia. In our own country, as well as in other parts of Europe, it may be ſeen in the gardens of the curious.

IT is well known, that the preparation of coffee-berries conſiſts in roaſting them, or giving them a juſt degree of torrefaction, which is known by their acquiring a browniſh hue equally deep on all ſides; and for this purpoſe an earthen veſſel is reckoned preferable to one of iron, or any other metal. A proper quantity being ground in a mill, and the powder infuſed in boiling water, makes a drink now much in uſe amongſt us *, and of a moſt

* The drink made of coffee-berries has been common in Europe for above fourſcore years, and much longer among the Turks, though its origin is not well known. Some aſcribe it to the prior of an Arabian monaſtery, who being informed, that the goats ſometimes browzing on the tree, would keep awake and caper all night long, became curious to prove its virtue, and gave coffee to the monks to prevent their being drowſy at their nocturnal devotions. Others refer the invention of coffee to the Perſians, from whom it was introduced at Aden in Arabia by the Derviſes of that city, a ſort of Mahometan monks, who drank it when they ſpent the night in prayer. Their example brought coffee into vogue at Aden, from whence it paſſed to Mecca, where it was firſt taken by the devotees, and then by the reſt of the people. From Arabia the cuſtom made its way to Cairo in Egypt, and from thence to Syria and Conſtantinople. Some Turkiſh doctors, indeed, oppoſed the introduction of this liquor, declaring it to be ſpirituous, and almoſt as inebriating as wine itſelf, which their laws forbid them to drink; but the Mufti ſoon removed this difficulty, and coffee was vindicated from the imputation of any vinous quality, and allowed to be a lawful liquor. During the war in Candia, the aſſemblies of news-mongers making too free with ſtate-affairs, the Grand Vizier ſuppreſſed the coffee-houſes at Conſtantinople; which ſuppreſſion, though ſtill ſubſiſting, does not prevent the pub-

lic

moſt agreeable flavour when its bitterneſs is taken off with ſugar.—As to the virtues of coffee, it is univerſally allowed to be an excellent drier, carrying off fumes and diſorders of the head ariſing from too much moiſture, and abſorbing acrimonies of the ſtomach, whence it is of ſervice after a debauch of ſtrong liquors; and it promotes watching, by bracing the fibres, and rendering them too tenſe for the relaxation required in ſleep. It is eſteemed efficacious for the cure and prevention of comatous diſorders, proceeding from phlegm or a too viſcid blood; and, in general, it is more proper for corpulent and phlegmatic perſons, than for thoſe of thin, lean, and bilious conſtitutions, as it dries up the nerves, and inclines them to tremors. By its volatile ſalts it removes obſtructions of the brain, dries up its ſuperfluous moiſture, and conſequently reſtores a due degree of elaſticity to its membranes and veſſels. It infallibly cures that ſpecies of head-ach which ariſes ſome hours after dinner from a bad digeſtion, and is of ſervice in thoſe proceeding from other cauſes. When made very ſtrong, it is eſteemed by ſome an excellent remedy for a nervous aſthma; and is ſaid to attenuate the blood, and promote urine. S. Pauli, a Daniſh phyſician, is of opinion, that it enervates men, and renders them incapable of generation;

lic uſe of coffee in that city. The cuſtom of drinking this liquor prevails very much amongſt the Turks in general, who ſeldom ſweeten it with ſugar; but their grandees add to each diſh a drop of eſſence of amber, others boil it with two or three cloves, and others with a little Indian aniſe.—Coffee was firſt brought into France by the famous traveller M. Thevenot; and a Greek, called Paſqua, brought to England as a ſervant in 1652, by Mr. Edwards, a Turkey merchant, firſt ſet up the profeſſion of coffee-man, and introduced the liquor amongſt us, though ſome ſay Dr. Harvey had uſed it before.

and in the year 1695, it was defended in the schools of Paris as a thesis, that the daily use of coffee rendered both men and women unfit for procreation: but nobody will affirm this, who considers, that as numerous a progeny is brought into the world since the great use of coffee in Europe, as before. However, it is certainly prejudicial, if drank too frequently, or in too large quantities, without considering what the constitution will bear or requires.

THAT odoriferous gum or resin we call Frankincense, or simply Incense, anciently burnt in temples as a perfume *, distills spontaneously from the tree which produces it, during the heats of summer: but for all the great use of this gum, both in the ancient religion and the modern medicine, the tree that yields it, and even the place where it grows, is but little known. The most common opinion has always been, that it was the product of Arabia Felix, and found near the city of Sabe, whence its epithet Sabæum; and yet the name Olibanum, which it also bears, seems to intimate, that there are of these thuriferous or incense-bearing trees near mount Libanus in Syria; nor is it to be questioned, but there are others in the Indies. We are likewise at a loss as to the form of the tree producing incense, as Mr. Ray himself confesses. Theophrastus says it is about five cubits high, full of branches, with leaves resembling those of the pear-tree, and a smooth bark

* People of all religions formerly burnt incense in their temples, to do honour to the divinities that were there adored. Many of the primitive Christians were put to death, because they would not offer incense to idols.—In the Romish church they still retain the use of incense in many of their ceremonies, particularly at solemn funerals, bestowing it on persons they would honour, as prelates, &c. and sometimes also on the people.

like

like that of the bay-tree; but, adds he, others affirm it to be like the maſtick-tree, bearing ſimilar fruit, and a reddiſh-coloured leaf; and others aſſert, that both its leaves and bark reſemble thoſe of the bay-tree.

FRANKINCENSE is brought to us from Turky and the Eaſt-Indies, formed into ſmall drops, of a pale yellow colour, ſomewhat hard and pellucid, of a bitteriſh reſinous taſte and fragrant ſmell. Sometimes we have it in a maſs, but that in drops is preferable. It is heating, drying, and ſubaſtringent; and is chiefly uſed internally, not only for various diſorders of the head and breaſt, but againſt coughs, vomiting, ſpitting of blood, diarrhœas, and dyſenteries. Externally applied, it heals wounds, cures chilblains, mitigates malignant ulcers, removes redneſs and inflammation of the eyes; and ſome uſe it to aſſuage the tooth-ach, but it is apt to ſpoil the ſound teeth. Fumigations of it are uſed to ſtrengthen the brain.

MYRRH is another kind of gum or reſin, iſſuing by inciſion, and ſometimes ſpontaneouſly, from the trunk and branches of a tree growing in Arabia and Abyſſinia, of which we have almoſt as little knowledge as of that producing incenſe. Authors indeed agree, that it is ſmall and thorny, but differ about the form of its leaves. The inciſions are made twice a year, and the myrrh oozing out is received upon mats ſpread under the tree for that purpoſe. The beſt is brought to us in little drops or tears, of a reddiſh-yellow colour, hard, tranſparent, bitteriſh, and of a ſtrong diſagreeable ſmell; and ſome of theſe, when broke, diſcover a kind of unctuous liquor, the moſt precious part of the myrrh, and the real Stacte of the ancients. This gum enters into ſeveral medicinal compoſitions, being of a heating, drying, and aſtringent

nature; and it makes a principal ingredient in embalming the dead. It is reckoned excellent in obſtructions of the Uterus; and is recommended for infarctions of the lungs, hoarſeneſs, coughs, quinſeys, pleuriſies, cholics, and for the worms. It is chewed to prevent infection from contagious diſeaſes; and, being a good detergent, it is uſed in unguents for the healing of wounds and ulcers.

HERE it ſeems proper to take ſome notice of the vegetable productions of the Red Sea or Arabian Gulf, which abounds with a vaſt variety of marine plants of the ſtony kind, ſuch as Madrepores, Fungi or Muſhrooms, Brain-Stones, and other coralline bodies, which appear, when the ſea is calm, like a grove or foreſt under water, particularly the branched madrepores, whereof ſome are ſix or ſeven feet high, ſpreading themſelves like an oak, or ſhooting up pyramidically like a cypreſs. The branches of the madrepore are uſually pinked with a great number of holes or pores, reſembling waves, ſtars, leaves, or other figures. The fungus, or ſea-muſhroom, ſeems to be faſtened to the rock by a ſmall root, and, contrary to the land-muſhroom, has its gills turned upwards. The brain-ſtone appears alſo to have a root *, and obſerves, like

* Dr. Shaw takes notice, that though nature has not given the marine plants one large root, as it has done to thoſe of the land, yet that mechaniſm is wiſely ſupplied by a number of little ones, which are diſtributed all over the plant in ſo juſt a proportion, that they are thicker upon the branches, where the vegetation is principally carried on, than in the ſtem, where it is more at a ſtand, and which therefore is often found naked, and ſeldom increaſes in the ſame proportion with the branches. The terreſtrial plants could not ſubſiſt without large extenſive roots, becauſe they are to be thereby ſupported againſt the violence of the wind, and their food is to be fetched at a great diſtance: whereas the marine vegetables, as they are more ſecurely placed, ſo they lie within a nearer

like the fungus, a certain ſpecific configuration, which is not uſual in other coralline ſubſtances. —But we ſhall not enlarge at preſent on this ſubject, reſerving a fuller account of the nature of coral, till we come to ſpeak of the manner of fiſhing it up in the Perſian gulf.

THERE is nothing of the vegetable kind in Syria or the Holy Land more celebrated than the cedars of mount Libanus or Lebanon, of which frequent mention is made in the ſacred writings. This mountain, or rather chain of mountains, has formerly furniſhed vaſt quantities of cedar, which were uſed by the neighbouring princes in building their moſt beautiful and ſtately edifices, and particularly by King Solomon, in the temple of Jeruſalem and ſeveral of his palaces. Theſe famous trees, however, are now reduced to a ſmall number, ſome of which are remarkable for their age and prodigious bulk; and one in particular is ſaid to be thirteen yards in circumference, and its branches to ſpread every way round it for about forty paces. Some yards from the ground the trunk divides itſelf into five limbs, each of them as big as a great tree; but few of the cedars come near to theſe dimenſions. Theſe trees are green all the year, bearing leaves much like thoſe of our juniper; and the large ones are remarkable for ſpreading their tops into a perfect round, whereas the ſmaller aſcend in form of a pyramid. They have a fragrant ſmell, and ſome of them bear a large conical fruit like that of the pine, but ſmoother, and of a browner colour, and growing in cluſters at the ends of the branches with the point upwards. The bark is ſmooth and brown,

nearer reach of their food, growing as it were in the midſt of plenty; and therefore an Apparatus of the former kind muſt have been unneceſſary, either to nouriſh or ſupport them.

the

the wood towards the outside is white and soft, but harder towards the middle, and of a reddish colour. It is so bitter, that no worm will breed or harbour in it, which is the cause of its being incorruptible. The wood of the cedar is also said to prevent the putrefaction of animal bodies; and the saw-dust of it is thought to be one of the secrets of those who pretend to the mystery of embalming.

IN Judæa and Arabia Felix grows a tree which yields by incision that fine native balsam called the Balm of Gilead. It is an ever-green, having leaves like those of rue, and white flowers in the form of stars, from whence spring out little pointed pods, inclosing a fruit like an almond. The juice is white at first, afterwards becomes green, and when old of the colour of honey. It easily dissolves in the mouth, has a bitter and astringent taste, and a brisk agreeable smell. Pomet esteems it an excellent diaphoretic in malignant fevers, and of great efficacy in deterging ulcers of the lungs, kidneys, and bladder; it is also used externally in the cure of wounds not attended with contusion.—The ancients called the wood of this tree Xylo-balsamum, its fruit Carpo-balsamum, and its juice or tears Opo-balsamum; but many are of opinion, that the true genuine species is not now to be met with in any part of the world. However, there is reason to think, with Hoffman, and some others, that the Balsam of Mecca is the true Balm of Gilead, as it possesses all its virtues, only is hardened, and its colour altered.

AMONG the variety of trees and plants that grow about the plains of Jericho, there is a prickly shrub with narrow leaves, which bears a sort of green plum, resembling a small unripe walnut both

both in ſhape and colour. This fruit is called Zaccone by the Arabs, who pound the kernels of it in a mortar, and then put them into ſcalding water; to the top whereof, after it has ſtood ſome time, riſes an oil, which they ſkim off carefully and preſerve in bottles. This oil they eſteem as a very valuable remedy, preferring it even to the Balm of Gilead, either applied outwardly to green wounds, or taken for inward contuſions.

NOR muſt we forget to mention the Roſes of Jericho, as they are called, which are a curioſity taken notice of by ſeveral judicious travellers; though the ſtories of their giving eaſe to women in labour, and blowing only on Chriſtmas-Eve, or on all the feſtival days of the Bleſſed Virgin, &c. are too ridiculous to want confutation. Theſe roſes, we are told, grow up in bunches, compoſed of three ſmall flowers, which are firſt of a red colour, but grow whitiſh by degrees, and ſhut and open themſelves like thoſe of alder. What they are remarkable for is this, that being put in water for a little time they begin to blow and expand themſelves, and being taken out of the water they ſoon dry and cloſe up again; ſo that in all ſeaſons of the year they may be made to blow at pleaſure. M. Thevenot ſays, he has ſeen of the flowers in the deſarts about mount Sinai; ſo that they are not peculiar to the plain of Jericho, as ſome have imagined.

IN ſeveral parts of Anatolia, and particularly about Erzerum, grow vaſt numbers of white poppies, from the heads of which is drawn a narcotic juice, afterwards inſpiſſated and brought to us in lumps, of a blackiſh-brown colour, ſometimes reddiſh, of a bitter taſte, and a very diſagreeable ſmell. This is that excellent drug we call Opium, which ſome diſtinguiſh into two kinds;

kinds; the one flowing of itſelf through inciſions made in the heads of the poppies, and properly called Opium; the other obtained by expreſſion, and termed Meconium. The former of theſe is preferable on all accounts, the latter being generally very impure, for the Levantines, to ſhorten their labour, and to get the more juice, ſqueeze it equally from the heads, leaves, and even ſtalks of the plant, and then reduce it by fire to the thickneſs of an extract; though ſome ſay it is drawn by decoction, and afterwards inſpiſſated.—Opium is certainly a very valuable medicine when prudently adminiſtered, but the abuſe of it is great and deſtructive. It excites ſleep, whether taken inwardly, or externally applied; it ſooths pain, raiſes the ſpirits, and occaſions the moſt agreeable ſenſations. It ought never to be taken on a full ſtomach, becauſe it hinders digeſtion and commonly proves emetic; and it is obſerved that this and all other narcotics, if given unſeaſonably, and for a long continuance of time, quite deſtroy the appetite, and bring on hickups, nauſeas, and habitual vomitings. Thoſe who begin to take opium ought to venture only on a very ſmall quantity at firſt, becauſe the effects of the ſame quantity are very different on different conſtitutions, and there is no knowing, but by experience, how much any perſon can bear. It is alſo certain, that they who accuſtom themſelves to take opium frequently muſt often increaſe the doſe, otherwiſe it gradually loſes its efficacy; inſomuch that half a dram may become requiſite to produce the ſame effect that half a grain would have done when they firſt began the practice. Its uſual doſe is from half a grain to two grains, but thoſe who have long habituated themſelves to it can take fifty or ſixty; and Geoffroy mentions a woman

a woman who took seventy-two grains every day, merely to ease the pain of a cancerous breast. The Turks, whose law commands them to abstain from wine, have supplied its place with this intoxicating drug, which custom has enabled them to eat in such quantities, as would absolutely poison people who were not accustomed to take it. A dram in a day is their usual quantity, but some take much more*; and M. Tournefort tells us, that the Dervises, a sort of religious amongst them, are so habituated to the use of opium, that they swallow it by ounces at a time; but this has been supposed to be greatly exagge-

* Dr. Smith gives an account (in the Philosophical Transactions, No. 221.) of one Mustapha Satoor, an inhabitant of a village near Smyrna, by trade a coffee-man, about forty-five years of age, whose constant dose of crude opium was three drams a day, one half of which he took in the morning, and the other in the afternoon; but that he could safely take double that quantity. The doctor, resolving to be an eye-witness of this man's performance, provided the best opium he could get, and weighed it nicely into drams; of which the Turk one morning took a dram and a half, made up into pills, chewing them with a little water. The visible effects the opium had upon him were the making his eyes sparkle, and giving a new air of life and brightness to his face. At three o'clock in the afternoon he came to the doctor again, and took the same quantity, and appeared after it with the same symptoms, alledging that it always had the like effect, giving him vigour and spirit, and that it was become as necessary to him as any other part of his sustenance; that it made him fitter for procreation; that it never affected him with sleep or drowsiness, but rather hindered his repose when he happened to take too large a dose; that he had used it for five and twenty years, beginning with the bigness of a grain, and gradually proceeding to larger quantities; and that the want of it, and the desire of taking it, grew daily upon him. The ill effects of this practice, however, were evident enough; for his body was weak, his legs wasted, his gums eaten away so that the teeth stood bare to the roots, his complexion was yellow, and he appeared older by twenty years than he was in reality.

rated;

rated; however, the use of opium in Turky is far from being so common as it was formerly. But that people may bring themselves, by degrees, to make use of such a quantity of opium, as would cause immediate death to those unaccustomed to take it, appears highly probable; and M. Tournefort's expression, which appears to be so hyperbolical, is rendered the less improbable from Mr. Grose's observation, that the hard labouring people of Surat, in India, and especially the porters, who get their living by carrying goods to and from the warehouses, and bear loads of very great weight, have contracted such a habit of taking it, that he was credibly assured, some of them would take at one dose considerably above an ounce. Many of the great and wealthy of that country also contract a habit of it, from their considering it, not only as a high point of sensuality, on account of the pleasing deliriums they experience from it, but as an extraordinary provocative: they usually take it in milk, boiled away from a large to a small quantity; and when they would put an end to its operation, swallow a spoonful or two of lime juice, or any other acid of the same kind; but those who use it, by thus forcing nature, wear out its springs, and prematurely bring on all the inconveniencies of old age; a consideration of little weight with the luxurious Easterns, who are generally more actuated by present enjoyments, than a regard for the greatest remote advantages.

THE best opium in the world is said to be produced in India, particularly on the banks of the Ganges; where some kinds of it are of an amazing strength, of which Mr. Grose mentions a remarkable instance; a Nabob of those parts, having invited an English factory to an entertainment,

ment, a young writer in the company's service, sauntering about the garden, plucked a poppy, probably apprehending no greater danger from it than is to be found from the poppies of England; but he soon fell into a profound sleep, of which the Nabob being informed, eagerly enquired with much concern of the particular bed, out of which the poppy was gathered; and being told; he, with strong expressions of sorrow, apologized for his having supposed, that the nature of poppies was too well known to require any warning, especially as the taste was far from being tempting; but that the sort which the English gentleman had the unhappiness to pitch upon, admitted of no human remedy, and nothing could save him. This, says our author, was really the case; for that was his last sleep.

IT will not be improper to add, while we are treating of opium, to prevent our entering upon this subject again, when we come to India, that the people there pretend, that it has a strange paradoxical mixture of effects in its operation, causing, at once, a seeming heaviness of the head, an apparent sleepiness of the eye, and yet an extraordinary watchfulness; in confirmation of which, we are told by Mr. Grose, that the people of Surat relate the following story: one of the governors of the town receiving a visit from a Gentoo rajah, at a garden without the city walls, they met, each attended by his guards. As they were walking, the governor took notice of the rajah's guards, who were squatted down after their manner in an open guard-room, with their heads leaning on their naked swords, and in appearance, either dosing, or fast asleep. The governor observed with a smile to the rajah, that he had a very just opinion of his good faith, since he

he would venture this interview with guards in ſuch a condition, from the opium he knew they were accuſtomed to take. "That, ſays the rajah is a miſtake; and if there be any body here, "for whom thou haſt no concern, bid him pluck "a flower as ſoftly as he pleaſes out of any of "their turbans". The governor inſtantly ordered a perſon who was near him to do what the rajah had mentioned. The man obeyed; he proceeded with the utmoſt caution, and approaching him who ſeemed the moſt overcome with ſleep, ſnatched off the flower. Inſtantly the rajah's guard felt what was done, and without more ceremony, at one ſtroke, cut off his arm, and the reſt were inſtantly on their feet. Thus, ſays our author, was the governor convinced of their vigilance, at the expence of a ſervant, who, whether he was innocent, or ſo guilty as to deſerve being expoſed to ſuch a trial, was probably thought of no conſequence, under that arbitrary government.

BUT to return, the Turks and other eaſtern nations uſually take about a drachm of opium, when they are going to battle; and the meſſengers, who are obliged to travel with great expedition, generally take ſome when they are weary, which gives them a freſh ſupply of ſtrength and ſpirits.—Our practice of uſing a preparation of opium, which we call Liquid Laudanum, is not to be commended; for crude opium anſwers all intentions much better, and the doſe of it is more eaſily aſcertained.

AFTER this ſurvey of the continent, ſome of the vegetable productions of the Aſiatic iſlands in the Archipelago deſerve our attention, particularly thoſe of Chios, now Scio, where the Lentiſk, which yields a valuable gum called Maſtich, grows in great abundance. There are twenty villages in

in Scio where they have plantations of lentiſks, each of which villages is obliged to pay annually to the Grand Signior a certain quantity of maſtich, according to the number of trees they cultivate. This tree commonly grows to the height of ten or twelve feet, ſpreading its branches in a circular manner, which in time become crooked, and bend towards the ground. The trunk is about a foot in diameter, covered with a rugged aſh-coloured bark; and the leaves are diſpoſed in couples, being broadeſt in the middle, and growing narrower towards each extremity. From the junctures of the leaves ſpring flowers in cluſters like grapes, in which manner the fruit alſo grows, having a white kernel in each berry. In the beginning of Auguſt they make inciſions in the bark of theſe trees, cutting it croſs-ways with large knives, and from thence the nutritious juice diſtills in ſmall drops, forming the grains of maſtich, which hardening on the ground, are carefully ſwept up and ſifted. About the middle of Auguſt they gather the greateſt quantities, if the weather be dry and ſerene; but if it be rainy, the tears are all loſt. Towards the end of September the maſtich flows again, but not ſo plentifully as before, and perhaps not altogether of ſo good a quality. When it is ſifted, the duſt that flies from it ſticks ſo faſt to the faces of perſons employed in that buſineſs, that they are forced to uſe oil to waſh it off.

THE Turks take much delight in chewing maſtich, ſometimes burn it among other perfumes, and ſometimes put a few grains of it into their bread, to give it an agreeable flavour. The ladies of the Grand Signior's ſeraglio conſume great quantities of this gum, chewing it by way of amuſement, or to ſweeten their breath, eſpecially in a morning faſting. It is of conſiderable uſe in medicine,

medicine, being moderately warm, drying, and emollient, so that it strengthens the stomach, stops vomiting, cures coughs and spitting of blood, and fortifies the head and nervous system. If good, its granules are dry, almost transparent, of a pale yellow colour, have a fragrant smell, and a resinous astringent taste,

THE Terebinthus, or turpentine-tree, is also the product of Scio, where it grows, without culture, on the sides of the highways, or on the borders of vineyards. It is as tall and spreading as the lentisk, has a bark much of the same colour, and leaves of the same shape, but longer and broader. The flowers grow in bunches, having each of them five Stamina, whose Apices are full of a yellowish dust or Farina. The fruit likewise appears in bunches three or four inches long, which rise from the center of a cup consisting of five small pointed leaves; but each embryo afterwards turns to a cod of an orange-colour, including a white fleshy kernel with a reddish coat. In the months of August and September they make incisions in the trunks of these trees, and the turpentine runs down upon flat stones placed underneath to receive it. This liquor is of a whitish colour, with a greenish cast, clear, and almost transparent, of a pleasant smell, and undoubtedly the best of all turpentines for internal use. It is a most excellent natural balsam, and very detergent, being prescribed as such in abscesses and ulcers, especially those of the lungs, breast, and urinary passages, which last it remarkably cleanses from gravel and mucous concretions. It is a very great diuretic, and for that reason M. Tournefort thinks it improper for persons troubled with the stone, to whom medicines of that nature do rather harm than good, as has been found by experience.

Turpentines

Turpentines in general are ſo extremely penetrating, that, when applied externally, they enter the pores of the ſkin, and communicate a ſmell to the urine; and even by ſitting in a room that has been lately painted, the urine has often been known to be affected in the ſame manner. The Terebinthus grows alſo in Cyprus, but the turpentine brought from thence is browner and fuller of droſs than that of Scio, which is indiſputably the beſt of any, though not much in uſe on account of its ſcarcity *.

We cannot leave Scio without giving an account of their curious method of cultivating and ripening their figs, which the ancients called Caprification, and which ſome modern naturaliſts have looked upon as a mere chimera; but M. Tournefort has put the matter entirely out of doubt, by giving us the whole proceſs, as he learnt it in the iſland of Zia, where it is likewiſe practiſed. To underſtand rightly this extraordinary kind of huſbandry, we muſt obſerve, that in

* We have ſeveral kinds of turpentine, whereof that of Straſbourg, produced by the Abies or ſilver fir, is moſt commonly uſed amongſt us; and by many it is preferred to that of Venice, from which it is diſtinguiſhed by its green hue, its clearneſs, its extraordinary fragrancy, and citron-flavour. Properly ſpeaking, there is no ſuch thing as Venice turpentine; for though a turpentine was formerly brought from thence, what now goes by that name comes from Dauphiné. This is of a yellowiſh colour, of the conſiſtence of new honey, of a bitteriſh taſte and grateful ſmell, and flows from the larch-tree either ſpontaneouſly or by inciſion. That flowing naturally is a kind of balſam, frequently ſubſtituted for that of Peru, to which it is not inferior in virtue. What is obtained by inciſion, after the ſpontaneous diſcharge is over, is of conſiderable uſe, particularly for making the beſt white varniſh. The turpentine of Bourdeaux, which is whitiſh and thick as honey, does not ooze from the tree in the manner it is ſent to us, but is a compoſition of ſeveral ingredients.

moſt

moſt of the iſlands of the Archipelago they have two ſorts of fig-trees; the firſt called Ornos, from the old Greek Erinos, a wild fig-tree, the Caprificus of Pliny; and the ſecond the domeſtic or garden fig-tree. The wild ſort, ſays our author, bears three kinds of fruit, called Fornites, Cratitires, and Orni, of abſolute neceſſity towards ripening the garden-fig. In Auguſt the Fornites appear, which hold to November without ripening; and in theſe are bred ſmall worms that turn to a ſort of gnats, no where to be ſeen but about theſe trees. Towards the end of September the Cratitires ſhew themſelves, into which the gnats of the former fruit make punctures, and the Fornites decay and fall off when the gnats have left them. The Cratitires remain on the tree till May, incloſing and nouriſhing the eggs depoſited in them by the gnats of the Fornites when they made the aforeſaid punctures. In May the Orni, the largeſt of the three ſorts of fruit, begin to appear; which, when grown to a certain ſize, are pricked juſt where the bud opens, by the gnats iſſuing from the Cratitires. But ſometimes it happens, that the gnats of this ſecond fruit do not come forth ſo ſoon as the Orni of the very ſame tree are diſpoſed to receive them; in which caſe the huſbandman is obliged to bring Cratitires from another tree, and fix them on the branches of that tree whoſe Orni are ready for the puncture; for if this be neglected, the Orni fall, and the gnats of the Cratitires afterwards fly away. It requires a thorough acquaintance with this ſort of culture, as M. Tournefort obſerves, to know the critical juncture when the fruit wants ſuch aſſiſtance; and in order to this, the bud of the fig is to be watched with the greateſt attention, as that part not only indicates the time when the prickers are ready to

come

come forth, but alſo when the fig is to be pricked with ſucceſs. If the bud be too hard, the gnat cannot inject its eggs; and the fruit drops when the bud is too much expanded.—But to come to the purpoſe to which the wild fig-tree is made ſubſervient. During the months of June and July, the peaſants take the Orni, when their gnats are ready to break out, and carry them to the garden fig-tree; in which they are obliged to obſerve the greateſt exactneſs with regard to the time, for otherwiſe the Orni drop, and the fruit of the domeſtic fig-tree, not ripening for want of its proper puncture, ſoon falls in like manner. Of this the huſbandman is ſo ſenſible, that he never lets a morning paſs without making a careful inſpection into the ſtate of his Orni, transferring thoſe which are in forwardneſs to his garden fig-trees. On this depends the goodneſs of his crop; and, in ſhort, by his care and proper management of the Orni, the garden-figs become ripe in about ſix weeks from the time of their receiving the puncture of the inſect.

We ſhall conclude this article with our author's ingenious conjecture as to the manner in which the puncture of the gnat produces ſuch a wonderful effect. Perhaps (ſays he) the prickers contribute to the maturity of the garden-fig, by cauſing the nutritious juice to extravaſate, whoſe veſſels they tear aſunder in depoſiting their eggs. Perhaps too, beſides their eggs, they leave behind them ſome ſort of liquor, proper to ferment gently with the milk of the figs, and make their fleſh tender. The figs in Provence, and even at Paris, ripen much ſooner for having their buds pricked with a ſtraw dipped in olive-oil. Plumbs and pears pricked by ſome inſect do likewiſe ripen much the faſter for it, and the fleſh round the

puncture is better tasted than the rest. It is not to be disputed, (continues he) but that a considerable change happens to the contexture of fruits so pricked, just the same as to the parts of animals pierced with any sharp instrument.

ANIMALS.

THERE is scarce any creature more famous among ancient and modern writers than the Chameleon, an animal of the lizard kind, and frequently found in the neighbourhood of Smyrna, especially about the old walls of the castle, where they breed amongst heaps of ruins. The head of the chameleon is somewhat larger than that of the common lizard, its back gibbous like a hog's, and its four feet are divided into claws resembling those of a parrot. It has a long flattish tail, of great use to it in climbing, for by that it will hang to the branches of a tree, and so draw up its whole body; of which Sir George Wheler gives us a remarkable instance, who having put a little chameleon into a deep glass, the animal, by standing on its fore feet, and raising itself up backwards, caught hold of the edge of the glass with its tail, whereby it drew up its body, and had like to have made its escape. The structure of its belly seems to be all thorax or breast, having ribs from the neck to the beginning of the tail, the larger of which tend backwards from the spine, and the others forwards from the extremities of the former. Its lungs reach almost the length of its body, consisting of a membranous substance very thin and transparent, and resembling a little light froth, having a multitude of cells or divisions. The skin of the animal is grained with globular inequalities, like shagreen, the largest whereof are about the head, the next on the ridge of the back,

back, and the next on the legs, the fineſt of all being on the ſides and belly. It has no ears that can be diſcerned, but has two ſmall apertures in the head, which ſerve for noſtrils. Its head is immoveable, unleſs as it turns with the body; but, to make amends for this defect, nature has given it very fine eyes, about the bigneſs of a pea, which are covered with a ſkin almoſt like that of the body, the grain being in circles that diminiſh gradually to the center, where there is a hole no bigger than a pin's head, through which the light is received. Theſe eyes are quite independent of each other, and capable of all the different motions that can be imagined; for the animal can either turn them both the ſame way, or one backwards and the other forwards, one upwards and the other downwards, or can keep one fixed upon any object, whilſt the other is moving according to the motion of another object, as Sir George Wheler and Dr. Spon frequently obſerved, to their great aſtoniſhment. The tongue is contained in a ſort of ſheath or ſtrong membrane, from whence the chameleon darts it with ſurpriſing ſwiftneſs upon flies that come within its reach, which ſtick to a glutinous or viſcous matter excreted from it, and by that means are drawn into its mouth. Mr. Moore ſays, he has ſeen a chameleon at Joar in Africa catch thirty or forty flies at a time with his tongue, which he can ſhoot out eight or ten inches; and indeed flies are the ordinary food of the chameleon, ſigns of which have been diſcovered in its excrements, and in the ſtomachs of ſome that have been diſſected: ſo that it is a vulgar error to ſuppoſe theſe animals live upon air only, though it is certain they will live a great while without taking any viſible ſuſtenance, like ſerpents, and other creatures of the ſame cold nature; and

ſometimes they will ſuck in air till they are ſwelled conſiderably beyond their uſual ſize.

BUT of all things relating to the chameleon, the moſt amazing, and the moſt difficult to be accounted for, is the faculty it is endued with of changing its colour, and aſſuming thoſe of objects near it. The uſual colour of this animal, according to Sir George Wheler, is green, darker towards the back, and lighter towards the belly, inclining to a yellow, with ſpots ſometimes reddiſh and ſometimes whitiſh; but Mr. Moore obſerved, that when they ſlept they were generally of a bright yellow. Sir George found a chameleon on the top of a green buſh, which, when he firſt caſt his eye upon it, appeared green likewiſe *; but as ſoon as it perceived he ſaw it, it dropp'd to the ground; and after looking for it earneſtly a conſiderable time, he diſcovered it creeping away to a hole in a rock, being changed to a dark brown colour, exactly like the earth it crept upon. The ſame gentleman obſerved ſeveral chameleons of a greyiſh colour, like the ſtones ſpeckled with moſs, amongſt which they harboured. Sometimes from a green all over, they ſuddenly become full of black ſpots, eſpecially when excited or diſturbed. If laid on a napkin, or under a white cap, they

* Pliny tells us of a beaſt called the Tarandus, that could aſſume the colour of the trees, ſhrubs, &c. amongſt which he hid himſelf, and was therefore ſeldom taken: but if there be any truth in the ſtory, Dr. Derham ſuppoſes it muſt proceed from the animal's chuſing to frequent ſuch places as were agreeable to its own colour; as he has conſtantly obſerved of caterpillars and other inſects, which fix themſelves on ſuch things as are of the ſame colour with themſelves, and thereby deceive the eye of the ſpectator. Thus the caterpillar that feeds on elder, the doctor has more than once ſeen ſo cunningly adhering to the ſmall branches of its own colour, that it might eaſily be miſtaken for a bit of wood, even on a careful inſpection.

become

A Cameleon.

become whitiſh, or of a cream colour; but they are not known to change to red or blue, though laid upon cloth of thoſe colours for a long time together. In ſhort, it is far from being true, that they change their colour according to every object or body near them, nor do the changes ſeem to be regulated by certain and invariable laws, the ſame cauſes not always producing the ſame effects. Mr. Moore has obſerved them change their colours twenty times in a day, ſometimes to that of the object near them, but not always; ſo that theſe mutations do not appear to be involuntary, but at the pleaſure of the animal. Be that as it will, the manner in which they are affected is one of thoſe ſecrets of nature, that have not yet been thoroughly diſcovered by the moſt curious enquiries *.

THE

* Naturaliſts are not at all agreed as to the reaſon or manner of the chameleon's changing its colour. Some, as Seneca, ſuppoſe it is effected by ſuffuſion; others, as the Carteſians, by the different diſpoſition of the parts that compoſe the ſkin, which give a different modification to the rays of light. Dr. Goddard aſcribes the change to the grains or globular inequalities of the ſkin, which, in the ſeveral poſtures, he thinks may ſhew ſeveral colours, and, when the creature is in full vigour, may have the effect of a mirrour, and reflect the colours of adjacent bodies. But theſe hypotheſes being all defective, we muſt have recourſe to another, which ſeems to be better founded; for the chameleon being repreſented as a very thin ſkinny animal, and yet capable of making itſelf appear flat and plump at pleaſure, it muſt have an extraordinary command over its ſkin as to tenſion or laxneſs. Now the animal having it in its power to fill the ſkin more or leſs, it is able not only to alter the tone and texture of the fibres, on which their reflexive quality in a great meaſure depends, but alſo to bring parts into ſight which before lay concealed, or to conceal ſuch as before lay open; and it is highly probable, that the parts uſually covered are of a colour ſomewhat different from thoſe conſtantly expoſed to the air. On this ſuppoſition, it is evident, the chameleon has a power to reflect different coloured rays from the ſame parts; alſo to make

THE ſheep in the country about Smyrna are a curioſity that ought to be mentioned, on account of their large tails, which are indeed mere lumps of fat hanging to the rump of the animal, and often weighing (to ſpeak within compaſs) ten or twelve pounds or upwards. This fat, when the ſheep are old, is no better than tallow; but that of lambs is eſteemed as good as any marrow. Theſe ſheep are not peculiar to Anatolia, but are common in Syria, Perſia, and other parts of the eaſt, as we are informed by travellers, who ſpeak of ſome in thoſe countries, whoſe tails are ſo thick and long as to weigh twenty-five or thirty pounds, and are therefore laid upon a light ſort of carriage which the ſheep draws after it, as well to eaſe the creature of its burden, as to prevent the wool from being ſpoiled by trailing on the ground.

NOT only the ſheep of Anatolia, but the goats alſo, are taken notice of by travellers as an extraordinary ſpecies. In the champaign of Angora, formerly Ancyra, they breed the moſt beautiful goats in the world, their hair being of a dazzling whiteneſs, as fine as ſilk, naturally curled in locks eight or nine inches long, which is worked up in the fineſt ſtuffs, eſpecially camblet. Little of this hair is exported unſpun, the people of the country being employed in ſpinning it into thread, which is manufactured at Angora without mixture, contrary to what is practiſed in Europe. M. Tournefort ſays, theſe goats are only to be ſeen within four or five days journey of Angora, the breed degenerating if they are carried farther.

AMONG the domeſtic animals to be found in the Aſiatic dominions of the Turks, perhaps none

ſome parts reflecting, and to prevent others reflecting: and hence proceed thoſe changes, and that medley of colours, for which this animal is ſo remarkable.

deſerves

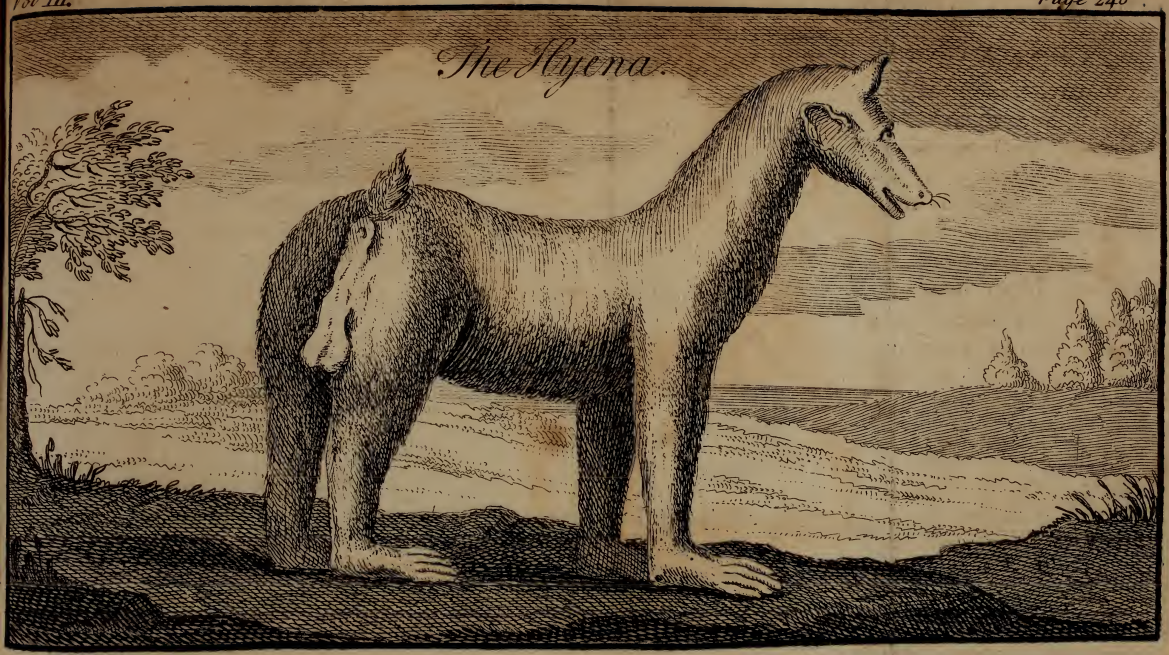
A Camel.

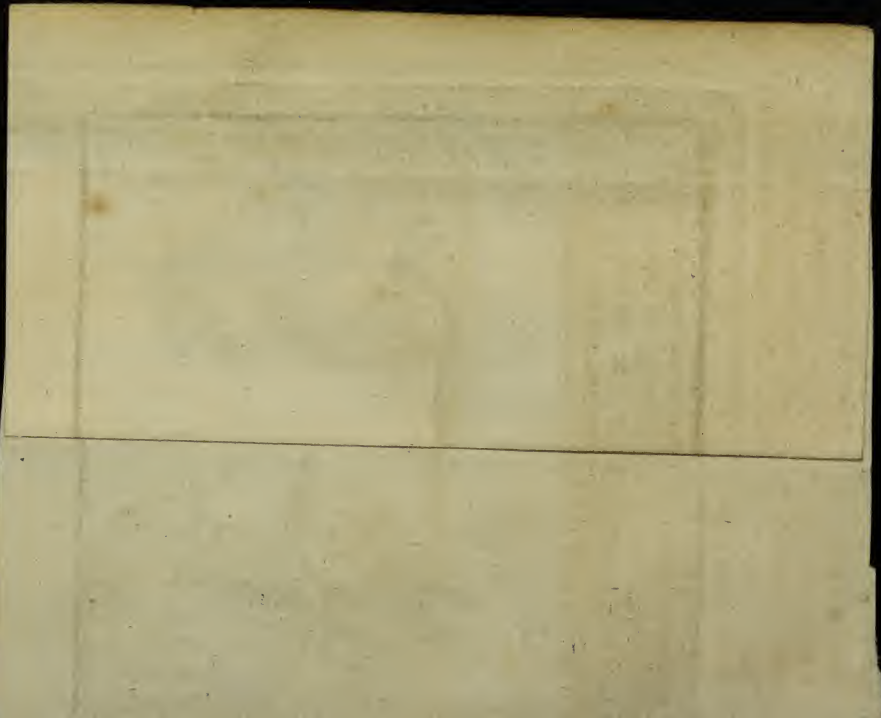
deſerves our notice more than the Camel, of which there are great numbers in Arabia. Theſe creatures are wonderfully fitted by Providence for travelling through hot ſandy deſerts, being able to go four or five days (ſome ſay ſeven or eight) without water. For this reaſon they are very much uſed in long journies, taken by merchants who go in large companies called Caravans, to prevent their being plundered by robbers, with which the eaſtern countries are much infeſted. The camels browſe on the little ſhrubs they find by the way, or if they meet with nothing of that nature, half a gallon of beans and barley, or a few balls made of the meal, which travellers generally carry along with them, will nouriſh one of them for a whole day. Their uſual burden is ſeven or eight hundred weight, with which they travel about two miles and a half in an hour, and their day's journey is frequently twelve or fifteen hours. The camel has a protuberance on its back, is generally of a browniſh colour, and is ſaid to live to the age of fifty, and ſometimes to a hundred years. It has a fleſhy foot, which is well adapted to the hot ſandy countries, where a hoof would ſooner be deſtroyed. They are taught to lie down to receive their burden; and when the day's journey is over, travellers uſually bind one of their legs, to prevent their riſing, or elſe tie the creatures together with a ſmall rope, that they may not ſtray away without diſturbing one another. The Arabs do not kill this creature for food; but the Turks eat the fleſh of the young ones, which they reckon a great dainty.—There is a ſpecies of theſe creatures we call Dromedaries, which are of a finer ſhape than the common camel, and have a leſs protuberance on the back. They will pace and gallop very ſwiftly, and it is

ſaid will eaſily carry a perſon a hundred miles a-day; nay, ſome of the Arabs affirm, that a dromedary will travel as far in one day, as one of their beſt horſes will in ſix or ſeven. Its upper lip is cloven in the middle like a hare's, and it has two broad nails on its feet, which are round and fleſhy, without diviſion. We are told that dromedaries are blind ſome days after their birth, like puppies or kittens.

THE Hyæna is a fierce animal, that is frequently found in Anatolia. It lives chiefly in the rocky hills and mountains, and in many particulars reſembles a wolf, but is more crafty and voracious. It is nearly of the ſame ſize as a wolf, but is more hairy, and has briſtles on its neck, back, and head. Authors have given different accounts of the colours of this animal; ſome would have them to be of the ſame colours as a wolf; others ſay, that in this particular they reſemble a bear; others repreſent them as of a gold colour; and others again affirm, that they are variegated with blue ſtripes: indeed it is not improbable that they are of different colours. Some authors have pretended, that this animal will imitate the human voice, and even learn the names of the ſhepherds, in order to call them out and devour them: but this is far from being true; for they are fonder of the flocks than of the ſhepherds, and never attack men, but in their own defence, or through exceſs of hunger; yet they will dig up graves whenever they can come at them, and, taking out the dead bodies, devour them; but perhaps this is only when preſſed by the ſeverity of hunger, and for want of a more delicious morſel.

THE Jackal is another animal common in theſe parts of Aſia, which, though not much bigger


The Hyena.



An Ostrich.

bigger than a fox, is so strong and fierce, that he ventures to attack a man, and frequently seizes cows, sheep, &c. He is said to be the lion's caterer, and that, when he seizes his prey, he makes a hideous noise, to inform the lion of his success, who, if he be within hearing, comes at his call, and the submissive butcher retires till his master has eat what he pleases: but this we suppose, like many other stories told of wild beasts, is entirely fabulous. Of his pretended master we shall speak when we come to Africa.

THERE are likewise many Tigers to be met with in the mountainous parts of Asia Minor, and M. Tournefort speaks of several upon mount Ararat, which walked about very quietly, or played at a reasonable distance from them; for though they are ravenous creatures, they seldom attack their prey, except in the night-time. Their skin is beautifully spotted, and as they are very swift, they are seldom taken but in defence of their young.

OF the feathered kind, the Ostrich claims our first attention, which is frequent in Arabia, and is perhaps the largest bird in nature. Its neck and head are remarkable, being shaped almost like a camel's, which creature the ostrich also seems to imitate in its manner of walking. Its head rises to the height of a man on horseback, and sometimes higher; and its wings are very strong, but too short to raise it from the ground. Assisted by these, however, they run a great pace; and it is not only a diversion to the Arabs to ride them down, but brings them a considerable profit; for they have a method of shaking the dead body of an ostrich, so as to make the fat dissolve into a sort of oil, which they carry to Alexandria, where it is used as an ointment, and sometimes taken

inwardly for disorders arising from a cold constitution. The legs and thighs of this bird are like a heron's, allowance being made for the different proportion; and each foot has three claws armed with horn, to facilitate its march.—Her eggs are said to be as big as the head of a young child, and to be finely veined like marble, which she hides inconsiderately in the sand, and leaves them to be hatched by the heat of the sun. This disposition, which seems to manifest so much disregard to her young, is taken notice of in the sacred writings*, and certainly argues a great want of that precaution observable in other animals. But there is another circumstance related of the ostrich, which shews an uncommon stupidity, viz. that when she is pursued by the hunters, she runs to hide her head, and particularly her eyes, behind a tree, leaving her large body exposed to view, and ima-

* In Job xxxix. we read, that "the ostrich leaveth her "eggs in the earth, and warmeth them in the dust, and for-"getteth that the foot may crush them, or that the wild "beast may break them. She is hardened against her young "ones, as though they were not hers: her labour is vain, "without fear, because God hath deprived her of wisdom, "neither hath he imparted unto her understanding;" that is, as Dr. Derham explains it, he hath denied her that wisdom, that natural instinct to provide for and nurse up her young, that most other creatures are endued with. It is not very strange (the doctor thinks) that no other incubation than the sun should produce their young, but it is very odd and wonderful, that any one species should vary from all the rest of the tribe. The singular care of the Creator, in this case, is likewise very remarkable, in supplying some other way the want of care and affection in the parent-animal, so that the young should, notwithstanding, be bred up in the large and barren deserts of Arabia and Africa, the most unlikely and improper places (in all human opinion) to afford sustenance to young helpless creatures; but the fittest, therefore, to give demonstrations of the wisdom, care, and especial providence of the infinite Creator and Conservator of the world.

gining,

gining, that as she no longer sees her pursuers, the danger is over, and she has nothing to apprehend.—What is reported of this animal's eating and digesting iron, has much the air of fable; for though they will swallow small bits of that metal, and little pebbles, it is only to bruise and grind the food in their stomachs, to moderate the operation of an excessive heat, or by its weight to open a passage into the intestines; for they do not digest them, they coming from them in much the same condition in which they were swallowed.—The feathers of the ostrich are used by way of ornament on testers of beds, canopies, &c. and our theatrical heroes owe much of their grandeur to the plumes of this animal.

In the plains near the river Araxes, M. Tournefort took notice of several remarkable sorts of birds, and amongst the rest he observed a species of herons, whose bodies were no bigger than a pigeon, though their legs were a foot and a half long. But nothing (says that traveller) comes up to the beauty of an admirable bird, as large as a raven, with black wings, the feathers on the back, towards the rump, of a purple colour, and those towards the neck of a shining gold green. The feathers on the middle of the neck are of a bright flame-colour, and those on the head of a dazzling green, which is crowned with a tuft of the same colour. The bill of this bird is brown, like that of a raven.

The tame partridges in the island of Scio are too great a curiosity to be passed over in silence. In the morning, we are told, the country people drive them into the fields to seek their food, each family trusting its stock to a common keeper, who in the evening calls them home again with a whistle: or if an owner has a mind to have his

brought home in the day-time, the same signal does the business, the birds following it without the least confusion. This may appear a little incredible, but we have M. Tournefort's authority for the truth of it; who likewise says, he has seen a man in Provence that used to lead droves of partridges into the country, and call them to him when he pleased, having them so entirely at command, that he would take them up in his hand, put them into his bosom, and afterwards dismiss them to pick up a livelihood with the rest of the flock.

We shall finish this article with an account of the Purple-Fish, anciently found in the Mediterranean, near the city of Tyre, whereof we have descriptions in several authors, and shells in most of the cabinets of the curious. This celebrated fish is a kind of Buccinum, a name given by the ancients to all fishes whose shell bears any resemblance to a hunting-horn; and it appears from Pliny, that from such a shell-fish the so much famed purple was obtained. This rich dye seems to have arrived at its highest perfection in Pliny's days, in the reign of Vespasian, when the artists of the imperial city of the world strove to excel each other in preparations of that tinging juice, to gratify the luxury of the great men of those times; for this colour was then sold at such a high rate, that a pound of the fine Tyrian purple cost a thousand Roman Denarii, which is more than thirty pounds sterling. M. Reaumur, and authors in general who have treated of this fish, are agreed, that the purple matter is lodged in a particular vein; but there are several kinds, differing in size and shell, and also in the colour of the tinging liquor. This gentleman observed some on the coast of Poictou, where he also discovered a different

different kind of purple, produced in oval grains about a quarter of an inch long, full of a white liquor bordering on yellow, which cover certain ſtones or ſands, about which the Buccina uſed to aſſemble. Theſe grains being bruiſed on white linen, at firſt only tinge it yellow, but in three or four minutes give it a very beautiful purple, provided the linen be expoſed to the open air; for the air of a room will not do, even tho' the windows be open. M. Reaumur adds, that the liquor of the Buccinum, and that of the grains, ſeem to be nearly of the ſame nature, except that the latter is more watry.

THESE fiſh are found in great abundance in the American ſeas; and Mr. Cole (in the Philoſophical Tranſactions) gives an account of a perſon who lived by the ſea-ſide in Ireland, and made conſiderable profit by marking fine linen with a delicate durable crimſon-colour, which he did with ſome liquid ſubſtance extracted from a ſhell-fiſh. Upon this Mr. Cole made ſeveral experiments on the ſhell-fiſh taken on that coaſt, till at laſt he obtained the colour in the following manner. The ſhells of this fiſh, being harder than moſt other kinds, are to be broken with the ſmart ſtroke of a hammer on a plate of iron, or firm piece of timber, with their mouths downwards, ſo as not to cruſh the body of the fiſh within; and after picking off the broken pieces, there appears a white vein lying tranſverſly in a little furrow or cleft, next to the head of the fiſh, which muſt be dug out with the ſtiff point of a horſe-hair pencil made ſhort and tapering. The liquor contained in this vein, being laid on linen, appears preſently of a light green colour, and if expoſed to the ſun ſoon changes into a deep green, and in a few minutes more into a blue; then

then it becomes of a purpliſh red, and by lying an hour or two longer, ſuppoſing the ſun ſtill ſhining, it turns to a beautiful purple, beyond which the ſun's heat has no farther effect; but by waſhing it in ſcalding water and ſoap, and again expoſing it to the ſun and wind, it becomes of a fair bright crimſon, which, if well managed, tho' no ſtyptic be uſed to bind it, will bear waſhing without loſing much of its beauty.—The ſhells of theſe fiſh, Mr. Cole obſerves, are of various colours, but moſt of them white; and ſome are red, when newly taken off the rocks, ſome yellow, others of both theſe colours, and others of a blackiſh brown. The animal ſeems to be amphibious, living either on land or in the water; but it muſt be ſea-water, for in freſh they ſoon expire. It is pretty to obſerve the ſhift they make to come at air; for being put into a veſſel of ſea-water, after lying for ſome time at the bottom, they creep up to the ſurface, and, by extending a kind of lip, they adhere to the ſides of the veſſel, with about half that part above the water, ſometimes creeping down under it, and then riſing again to their former ſtation. The fiſh, when boiled, is indifferent food; as well taſted, at leaſt, as limpets or periwinkles, though their fleſh is ſomewhat harder.—As to the tinging juice of this fiſh, our author conjectures it to be the ſpermatic or prolific matter by which it propagates its ſpecies, which ſeems probable from its conſiſtence, and its virulent fetid ſavour; or elſe it may be a humour, which, by its vital energy, ſupplies the want of heart, liver, blood, &c. in this, as in other bloodleſs animals.

WE ſhould now proceed to ſurvey the antiquities of the Aſiatic Turky, but there are a few particulars in the countries we are ſpeaking of, which could

could not well be brought under any of the foregoing heads, and yet ſeem too remarkable to be omitted; which therefore we ſhall here throw together as

MISCELLANEOUS ARTICLES.

THE lake Aſphaltites, or the Dead-Sea, is a curioſity in natural hiſtory, concerning which ſeveral groundleſs opinions have prevailed. This lake is generally ſuppoſed to have had its origin from the deſtruction of Sodom and Gomorrah, the ruins of which cities ſome travellers pretend to have ſeen under the water. The formation of it indeed may be tolerably well accounted for, by ſuppoſing, that the thunder and lightning, which were undoubtedly concerned in the overthrow of thoſe cities, falling in great abundance upon ſome pits of bitumen, the veins of that combuſtible matter immediately took fire, which penetrating into the bowels of the country, and the ground ſubſiding, an earthquake enſued; and ſo the waters running to this cavity, and mixing with a vaſt quantity of bituminous matter, would form a lake of ſuch qualities as it is at preſent known to poſſeſs. It might be thought raſhneſs to call in queſtion an opinion ſo univerſally received among Chriſtians, which yet has been contradicted, not to ſay confuted, by an ingenious writer, whoſe arguments are chiefly founded on Scripture itſelf.—This lake ſeems to have obtained the name of the Dead-Sea, from a notion that its ſteam or ſtench killed all birds that attempted to fly over it, and that no fiſh or other creature could live in it. As to the former, there is ſufficient evidence of its being a miſtake, birds being frequently ſeen flying acroſs it without receiving any injury; and as to the latter, there is

good

good reason to doubt the truth of it, some shells, like those of oysters, having been found upon the shore. The water, though very clear, is extremely salt, and withal bitter and nauseous; which might therefore well enough occasion such a tradition.

UPON the shore of this sea, we are told by travellers, there are abundance of small black pebbles, which easily take fire if held to the flame of a candle, and yield a very offensive stinking smoke; but their most remarkable property is this, that they only lose of their weight by burning, their bulk suffering no diminution. They are capable of as fine a polish as black marble, and are said to be found plentifully, and of a considerable size, in the neighbouring mountains *. This is the bitumen for which the Dead-Sea has been always famous, and which Dr. Shaw was informed is raised, at certain times, from the bottom in large hemispheres; which, as soon as they come to the surface, and are acted upon by the external air, burst at once with great smoke and noise, like the *Pulvis fulminans* of the chymists, and disperse themselves round about in a thousand pieces. But this, the doctor adds, happens only near the shore, for in greater depths the eruptions are supposed to discover themselves only in such columns of smoke as are now and then observed to arise from the lake: and perhaps to such eruptions may be attributed that variety of pits and cavities found in the neighbourhood of the lake, which

* This sort of Asphaltum, Dr. Hill observes, is not peculiar to the country about the Dead-Sea, but found also in Spain, France, and Italy. It yields an oil which is an excellent cement, and is supposed to have been the bitumen which, we are told, supplied the place of mortar, in building the walls of the ancient Babylon.

Mr.

Mr. Maundrell juſtly compares to thoſe places in England where there have formerly been lime-kilns. The bitumen, continues the doctor, is probably accompanied from the bottom with ſulphur, both of them being found promiſcuouſly upon the waſh of the ſhore. The latter is exactly the ſame with common native ſulphur; the former is friable, heavier than water, and yields upon friction, or by being ſet on fire, a fetid ſmell, as was obſerved above. It is as black as jet, and exactly of the ſame ſhining appearance.

THERE is a wonderful circumſtance mentioned by Joſephus, of the Dead-Sea's changing its colour three times a day, and ſome travellers have pretended the ſame thing: but ſuch changes, if there be any truth in the report at all, might undoubtedly be accounted for, by conſidering the nature of its ſituation, the ſoil of the adjacent country, or other natural cauſes, without having recourſe to miracle. As for the Apples of Sodom, or Infernal Apples, ſaid to grow on the borders of the lake, and deſcribed to be extremely fair and beautiful without, but all ſoot and aſhes within, we may venture to conclude, they never had any exiſtence, except in ſome poetical or ſuperſtitious brain.

MR. Thevenot tells us of a peculiar ſort of boats uſed at Moſul, to carry goods and paſſengers upon the Tigris, which are made of a great number of Borachios, or goat-ſkins, blown up like bladders, and tied together with ſtrong ropes. Upon theſe are laid hurdles made of poles faſtened together with withies, over which are placed a ſort of benches two feet and a half high, and at a like diſtance from each other. Over theſe benches are laid other hurdles, on which they place the goods and paſſengers, leaving a border round them two

or

or three feet in breadth. These boats (if they deserve that name) are usually twenty-four feet long, ten or twelve wide, and five or six in height. They are rowed by two watermen, whilst a third is employed in wetting the Borachios every quarter of an hour, which otherwise would squat and sink. They have neither mast, sail, nor rudder; and yet, if they wanted wind, as M. Thevenot pleasantly observes, they would soon sink to the bottom.

THE same traveller, speaking of the excessive heats at Mosul in summer, takes occasion to mention a very dangerous burning wind, called Samiel by the Arabs, and which he supposes to be the east wind we read of in the book of Job. It is mixed with streaks of fire as small as a hair, and frequently proves fatal to travellers; for those that breathe it, either instantly die, or have but just time to complain of an inward burning. When they are taken up, they are as black as a coal, and their flesh comes off from the bones; but those who perceive it coming, sometimes escape the danger, by falling flat on the ground. Our author imagines it to proceed from sulphureous exhalations, which are kindled by the motion of the air; for it is chiefly felt on the banks of the river, and not on the water, these vapours being there dispersed by the breezes. Nor is this the only wind, though indeed the most dangerous of any, that infests the inhabitants of this city and climate. The very hot air is pernicious, not only to the lungs and blood, but to the very skin, which is often burnt, blistered, and stripped off by it in a surprizing manner. The eyes are so much endangered by it, that they are forced to travel with a kind of soft black crape over them; but as this does not always preserve them, they carry about them

them an efficacious remedy to anoint their eyes whenever they begin to be inflamed.——Our author likewiſe relates, that in his journey from Suez to Cairo, he was annoyed with one of theſe hot winds, which laſted for a day together; and that the caravan travelling to Mecca was ſo infeſted by one the year before, that in a night's time they loſt two thouſand men.

THE deſcription M. Tournefort gives of the famous mount Ararat, will perhaps be agreeable to the reader. The aſcent to it (according to that traveller, who took the pains to climb it) is not only very difficult and fatiguing, but alſo dangerous, through the ruggedneſs of ſome parts, and the deep ſands of others. The horrid precipices one is obliged to paſs cannot be beheld without horror, even by the guides themſelves, to ſay nothing of the danger of being devoured by beaſts of prey. Neither is there any hermitage, monaſtery, or other place of refreſhment by the way, as ſome travellers have talked; for our author aſſures us, he neither met with any, nor, upon enquiring of his guides, could he learn there were any ſuch, except two or three at the bottom of the mountain. It riſes to a prodigious height, and may be ſeen (according to Tavernier) at the diſtance of five days journey. The Armenians pay a great veneration to it, and pretend to ſhew ſome remains of the ark, ſtill preſerved from corruption. The upper part of this vaſt mountain, ſays M. Tournefort, is continually covered with ſnow, which, in all likelihood, has lain there ever ſince the flood; and is, for one half of the year at leaſt, quite hid with clouds, which obſcure it from our ſight.

ANTI-

ANTIQUITIES.

THE subject we are entering upon is a very copious one, and would itself afford matter for several volumes; which therefore we shall endeavour to handle with brevity, and yet as fully as the nature of our design requires. No part of the world indeed abounds more with the remains of antiquity than the Asiatic dominions of the Turks, and especially Anatolia, or Asia Minor, which has been famous, both in sacred and profane history, for its great and opulent cities, most whereof are now in ruins, or dwindled to inconsiderable villages.

IT is a melancholy thing to see Ephesus, formerly one of the most flourishing cities of Asia, now reduced to a miserable village, remarkable for nothing but the ruins that are spread round it, which sufficiently testify its ancient magnificence. As we go to the port, which at present is only a dangerous road for shipping, we see abundance of old marbles on the banks of the river, where probably stood that part of Ephesus built by Lysimachus, and the arsenals mentioned by Strabo. The castle or citadel, now possessed by the Turks, has several curious fragments of antique marble, carelessly intermixed in the walls among other less valuable materials. But at some distance from hence we see the remains of another citadel, of greater antiquity, whose works were faced with the finest marble. A gate of this structure is still standing, called the Gate of the Persecution, but for what reason, cannot well be imagined; unless some might suppose the three bass-reliefs it is adorned with related to the persecution of the primitive Christians under the Roman emperors. These bass-reliefs, of which M. Tournefort has given

given us a draught, are of admirable workmanſhip, as plainly appears, notwithſtanding they are much injured and defaced. That on the left has been the fineſt, but is moſt abuſed; it is about five feet in length, and half that height, repreſenting a bacchanal of children rolling among vine-branches. The middle one is a foot higher, and contains fourteen or fifteen figures of men and women, ſome naked, and others in Roman habits. The other on the right contains ſeven or eight figures; but what the whole ſculpture was intended to repreſent, we do not find that antiquaries can determine, though there is moſt reaſon to think it was deſigned for ſome Roman triumph.—Eaſtward from the Gate of Perſecution, we come to a ruined aqueduct, built by the Greek emperors, to convey water to the caſtle as well as the city, the arches whereof are ſupported by ſquare pillars, conſiſting of fine pieces of marble, with ſeveral inſcriptions on them, few of which are legible.—On the weſt ſide of the village lie vaſt heaps of ruins, one of which, from its figure and length, muſt have been a Circus or Stadium, and ſeems to have had a ſort of theatre at the end of it, ſeparated from the two parallel walls; and at a little diſtance are the remains of an amphitheatre *. South-weſt of the Circus is a large arch or gate, with part of a wall ſtanding on each ſide of it, ſuppoſed to be the front of a Chriſtian church, built out of the ruins of ſome ancient edifice, the whole being of excellent marble, on which are to be ſeen ſome pieces of inſcriptions.---

* Here probably (as Sir George Wheler obſerves) the rabble of the city aſſembled, at the inſtigation of Demetrius the ſilver-ſmith, who thought his craft in danger from St. Paul's preaching againſt the idolatry of the Epheſians, as may be ſeen in Acts xix. from ver. 24. to the end of the chap.

As

As to the celebrated temple of Diana, who was worſhipped by the Epheſians, we are informed by hiſtory, that it was four hundred and twenty-five feet in length, and two hundred and twenty in breadth, erected at the expence of the moſt powerful cities of Aſia Minor. It was ſupported by a hundred and twenty-ſeven columns, each ſixty feet high, and many of them covered with curious ſculptures, done by the moſt excellent artiſts of thoſe times. This ſuperb ſtructure was reckoned one of the wonders of the world, and ſome ſay it was two hundred years in building; but it was much ſooner deſtroyed by the villainous ambition of Heroſtratus, who, to immortalize his name, ſet fire to it on the very night that Alexander the Great was born. It was afterwards rebuilt with the utmoſt magnificence, but little is to be judged of it from its preſent ruins, which are vaſt heaps of brick covered with marble, all pierced with holes for the cramps of thoſe plates of braſs with which it is thought to have been adorned. It appears indeed to have been built upon a multitude of arches or vaults, which ſome have taken for a labyrinth; but they are nothing elſe but drains to carry off the water that fell from the mountains, the marſhy ground requiring a foundation of that nature for ſo vaſt an edifice.

SARDIS, another of the ſeven churches mentioned in the Apocalypſe, and once the royal ſeat of the rich king Croeſus, is now reduced, ſays Sir George Wheler, to a neſt of worſe than beggars, the few Greek Chriſtians in the place being obliged to get a livelihood by digging and planting the gardens of the Turks, having neither church nor prieſt amongſt them. Nor are the Turks themſelves there very conſiderable, either for number or riches, being only herdſmen to the cattle feeding

ing on the neighbouring plains, and dwelling in pitiful huts of earth, having one moſque, perverted to that uſe from a Chriſtian church: yet there are ſtill to be ſeen ſome noble remains, from whence one may form an idea of its ancient ſplendour and magnificence. Some of the moſt conſiderable are the walls of an old caſtle ſtanding on a hill, to the eaſtward of which are the ruins of a church, and of another vaſt edifice; and on the north and ſouth ſides are the fragments of palaces and other proud ſtructures, now demoliſhed, and humbled to the ground *.

A PERSON who delights in antiquities will find great entertainment at Angora, formerly Ancyra, which is ſtill one of the beſt cities in Anatolia, and every where ſhews marks of its ancient magnificence. There is nothing to be ſeen in the ſtreets, ſays M. Tournefort, but pillars and old marbles, amongſt which there is a ſpecies of reddiſh porphyry, and of red and white jaſper. Moſt of the pillars are ſmooth and cylindrical: ſome are channelled ſpirally; but the moſt ſingular are

* Here it may not be amiſs to obſerve, with a modern author, that of all the ſeven churches of Aſia, none but that of Smyrna retains its reputation, for they reckon in that city at leaſt ten thouſand Greeks, beſides ſeveral hundred Armenians, and other Chriſtians. The other cities, that St. John was commanded to write to, are now either entirely ruined, or make a deſpicable appearance. That of Sardis, which made ſuch a figure in the wars between the Perſians and Grecians; Pergamus, the capital of a fine kingdom; and Epheſus, which gloried in being the metropolis of Aſia Minor; theſe three famous cities are now obſcure inconſiderable villages, built with clay and fragments of fine marble, the remains of their priſtine grandeur. Philadelphia indeed, next to Smyrna, is in the beſt condition, having, according to Dr. Smith, above two hundred houſes inhabited by Chriſtians, and four churches; whereas the places of Thyatira and Laodicea are ſcarce known, unleſs by ſome inſcriptions found among their ruins.

oval,

oval, adorned with a plat-band before and behind, which alſo runs along the pedeſtal and the capital. Our author has given us a draught of one of theſe columns, as he thought them beautiful, and that no architect had ſpoken of ſuch an order. As for the modern buildings, they are moſtly of clay or turf, now and then intermixed with ſome fine pieces of marble. The walls of the city are low, and conſiſt of columns, architraves, capitals, and other ancient fragments promiſcuouſly mingled with the reſt of the ſtone-work. On theſe old pieces of marble are to be ſeen a great number of inſcriptions, moſt in Greek, but ſome in other languages; ſeveral of which M. Tournefort has copied, and many more are turned inwards, and hid in the wall, through the careleſs ignorance of the builders.—The caſtle of Angora is ſurrounded with a triple incloſure, and the walls are of large pieces of white marble, mixed with another ſtone not unlike porphyry. Within the firſt incloſure is a little Armenian church, ſaid to have been built twelve hundred years ago, which receives all the dim light it has through a ſquare piece of alabaſter, of that tranſparent kind we have heretofore deſcribed. This part of the caſtle is full of pedeſtals and inſcriptions, and indeed every part of Angora ſo abounds with them, that an antiquary might employ a whole year in tranſcribing them. The church-yard belonging to the Chriſtians has ſuch a ſtore of Greek and Latin inſcriptions, that it can never be exhauſted; but the greateſt part of them are epitaphs of perſons about whom we are not concerned *. The learned French traveller

* M. Tournefort, who has copied many of the ancient inſcriptions he ſaw at Angora, has alſo tranſcribed two modern epitaphs he obſerved in the church-yard of the Chriſtians, which,

veller above-mentioned has alſo given us a draught of the remains of a noble ſtructure at Angora, which he calls the Monument of Auguſtus, as having probably been dedicated to that emperor by the inhabitants, in acknowledgment of his repairing and beautifying that city. It appears to have been all of white marble, and ſome of the walls are ſtill above thirty feet high. The front is entirely deſtroyed, only a ſtately door remains, which is four and twenty feet high, and full three yards wide; on the ſides whereof is a defaced inſcription in three columns, relating to the life of Auguſtus, which is to be found in Gronovius, Cluſius, and other authors. The injury this inſcription has received, is not ſo much occaſioned by length of time, as by the avarice of the peaſants, who have made great hollows in the ſtones, to get out the pieces of copper by which they were cramped together.

In the neighbourhood of Cæſarea, in Cappadocia, there are many ancient ſtructures, ſome in form of a tower, and terminating with a cupola; others like a pyramid or ſugar-loaf; but all of them of fine ſquare ſtones, ſuppoſed to have been Perſian tombs, as the inſide of them is divided into two, three, or more vaults, with ſeveral Perſic inſcriptions. At the foot of a mountain, on which the old city ſtood, its ruins are ſtill to

which, as they relate to natives of Great Britain, we think proper to mention. They are in Latin, and to the following effect: "Here lies interred John Roos, a Scotchman, who "died at Angora the 22d day of June, in the year of our "Lord 1668, and the thirty-fifth of his age. What is my "lot to-day, may be thine to-morrow."—The other is equally plain, and to this purpoſe: "Here lies Samuel Far-"rington, an Engliſhman, ſon of Acidwall Farrington, a "merchant of London, who ſlept in Chriſt in the twenty-"third year of his age, and of our redemption, 1660."

be seen; and here Sir Paul Lucas was shewn a vault, in which they told him forty virgin-martyrs were buried, but when, or who they were, he could not learn. However, there being an opening big enough for a middle-sized man to creep through, his curiosity led him to examine it; and he accordingly found it full of bodies, broken, and lying in a confused manner, with the flesh upon them, but dried and hardened. There are many more such vaults or catacombs among these ruins, which need no farther description.

FROM Anatolia let us now pass on to Syria, which, in its largest sense, comprehends Phœnicia and Palestine; and these countries we shall likewise find overspread with the ruins of once flourishing cities, whilst the soil, in many places rich and fertile, and productive of every thing that can be wished for use or delight, lies waste and uncultivated.

IN passing a narrow valley between mountains which suddenly open on each side, the astonished traveller immediately discovers an immense quantity of ruins, and behind them, towards the Euphrates, a level country, as far as the eye can reach, without the least animated object. These are the magnificent ruins of Palmyra. No prospect can be conceived more striking and romantic than such a vast multitude of Corinthian columns, with few intervening walls and solid buildings. On the left hand, you behold a wall, which belonged to the court of the temple of the sun; and though part is broken down, it is of a considerable length. A row of twelve noble windows are still standing together, and farther to the left are two others: between each is a pilaster of the Corinthian order supporting the entablature; through the space that is broken down, the view is terminated by distant rows of columns,

and

A General View of Palmira.

J. Collyer sculp.

J. Collyer sculp.

The Remains of the Great Temple in Palmira.

and over the part of the wall which is ſtill ſtanding, riſe the ruins of the temple itſelf. At the end, where ſtood the portico, is a ſquare ruinous tower built by the Turks. Before theſe buildings are incloſures of corn and olive-trees planted by the Arabs, and ſeparated by mud-walls, while on all ſides magnificent ruins lie around them.

BEFORE the Turkiſh tower is a piece of a very large column ſtanding on its baſe; but the greateſt part, with its capital and entablature, have fallen down. The ſtones that are around it ſhew that there was a grand edifice in this place. The diameter of this column near the baſe is five feet and a half. A little to the right of the tower, though at a greater diſtance, are the ruins of a Turkiſh moſque, with its minaret; and before it is a grand column, that riſes to a great height, and is of the ſame dimenſions as that which is broken down. A little farther to the right is a noble arch, with a poſtern richly ornamented on each ſide, from which a colonade extends four thouſand feet in length, terminated by a ſuperb mauſoleum. Many of theſe columns are fallen down, and open a view to the other ruins, while in other parts the remains of magnificent ſtructures are ſeen through the intercolumniations. At ſome diſtance nearer, before this magnificent colonade, ſtands a ſmall temple, adorned with a noble portico; and ſtill farther to the right is another temple, with its periſtyle ſeen through the intercolumniation. Still farther to the right is a range of columns, that ſeem to have belonged to a portico. At ſome diſtance nearer appear ruins, like thoſe of a Chriſtian church; and ſtill nearer, and farther to the right, are four lofty columns, with their ſuperb entablature, the only remains of ſome magnificent edifice. A little to the right of theſe, though at a greater diſtance,

are a number of columns, ſtill ſupporting a conſiderable part of their entablature, and ſo diſpoſed, that they reſemble the periſtyle of a ſmall temple that has been wholly deſtroyed; nearer ſtill, and more to the right, is an elegant mauſoleum. Beſides theſe, a vaſt number of columns are ſcattered over the plain, ſome with, and others without their entablatures; while the ground is on all ſides covered with broken columns, capitals, rich entablatures, and ſtones of prodigious magnitude. Towards the right the diſtant proſpect is terminated by a range of hills and mountains; on one of which is a caſtle, and on another are the ruins of a Turkiſh fortification.

ALL theſe magnificent ruins appear at one view in the diſtant proſpect; but on a nearer approach, the admiration is ſtill kept up by the prodigious ſize of the columns, and the perfection of the workmanſhip beſtowed on the ornamental parts, particularly the ornaments of the gate, and the beauty of the entablatures and capitals: but nothing can poſſibly form a more amazing contraſt to all this magnificence, than the wretched huts of the Arabs, thirty of which are in the court of the great temple. Theſe ruins were once ſurrounded with walls, flanked with ſquare towers; but in many parts they are entirely levelled. They ſeem to have been three miles in compaſs: but the Arabs ſhew a tract of land raiſed above the level of the deſert, about ten miles in circumference, which they ſay was the extent of the ancient city, and that ruins are diſcovered there by digging. A circuit of three miles muſt indeed be thought very little for Palmyra in its proſperity, when it is conſidered, that the greateſt part of the ſpace was filled by public edifices, which, from their aſtoniſhing magnificence, and the many ſuperb ſepulchres,

ſepulchres, inconteſtibly prove its ancient grandeur; and it is probable, that when Juſtinian fortified it after its being deſtroyed, he contracted its bounds.

THE ſuperb remains of this city are ſo ſtriking, that it is impoſſible to avoid feeling our curioſity excited with reſpect to its condition in ancient times. It is natural to enquire how a ſpot like this, divided from the reſt of the world by an inhoſpitable deſert, came to be choſen for its ſituation; who was its founder, and from what quarter it drew the riches neceſſary to its ſupport? But it is remarkable, that hiſtory makes ſcarce any mention of Palmyra and Balbec; and we have little knowledge of them, but what is ſupplied by inſcriptions. Is not even, ſays our author, this ſilence of hiſtory inſtructive? Does it not inform us, that there are periods in hiſtory that are entirely concealed from us? By the natural and ordinary courſe, the memory of cities is preſerved longer than their ruins; but here are two examples of conſiderable cities, that have ſubſiſted longer than any other known to us; and yet it is rather what we ſee than what we read, that excites our curioſity concerning them; and the remains of Balbec and Palmyra ſtill ſubſiſt, to relate, if we may uſe the expreſſion, their own hiſtory. Can the loſs of books be the cauſe, or did the ancients ſet leſs value on theſe edifices than we do at preſent? If this laſt be the caſe, their ſilence, with reſpect to Balbec, will juſtify what they advance about Babylon; and their not mentioning Palmyra, be a kind of proof of the amazing magnificence of Greece and Egypt, on which they have beſtowed ſuch encomiums.

JOHN of Antioch obſerves, that Palmyra was built by Solomon, on the very ſpot where David

ſlew Goliah, in honour of that memorable action; but what the Arabian hiſtorians mention on this ſubject, appears ſo extremely fabulous and extravagant, as to be unworthy of notice. The Old Teſtament informs us*, that Solomon erected a city in the wilderneſs, and called it Tedmor; and we are told by Joſephus, that the Greeks and Romans afterwards gave it the name of Palmyra, but that its firſt name was retained by the Syrians; and this is confirmed by St. Jerom, who ſays, that Tedmor and Palmyra are the Syrian and Greek names of the ſame place: even at preſent the Arabs of the country ſtill call it Tedmor. They pretend that theſe ruins were the work of Solomon, and, among other things, ſhew the ſeraglio of that king, his haram, and the tomb of one of his favourite concubines. "Solomon, the ſon of David, ſay "they, performed theſe wonders by the aſſiſtance "of ſpirits."

BUT the ſtructures erected by Solomon were doubtleſs entirely demoliſhed by Nebuchadnezzar, who, we are aſſured by John of Antioch, deſtroyed that city before he beſieged Jeruſalem. It cannot be reaſonably ſuppoſed, that edifices, in the elegant ſtile of thoſe of Palmyra, were prior to the eſtabliſhment of the Greeks in Syria. Hence it is not ſurprizing, that Xenophon ſhould take no notice of it in his celebrated Retreat, though he is very exact in deſcribing the deſert: nor ſhall we wonder at its not being mentioned in the hiſtory of Alexander the Great. No mention is made of it before the time of Mark Antony, who would have plundered it, had not the inhabitants ſecured themſelves, by tranſporting their moſt valuable effects beyond the Euphrates, and defending the paſſage of that river by their archers. At that

* 1 Kings, ix. and 2 Chron. viii.

time

time the inhabitants of Palmyra were merchants, and ſold to the Romans the merchandizes of India and Arabia. We may therefore conclude, that they were a rich and free people; but how long they had enjoyed theſe advantages, is uncertain. Their riches and trade were probably of ſome ſtanding; for it appears from inſcriptions, that in leſs than forty years after, their expences and their luxuries were exceſſive. Afterwards, when the affairs of the Romans in the Eaſt were in a low ſituation, Odenathus of Palmyra took ſuch advantage of the ſituation of his country, between the two great rival empires of Rome and Perſia, that he rendered himſelf maſter of the balance of power, and declared for the one or the other, according as the face of affairs changed, and his intereſt required. He entered into an alliance with the emperor Gallienus, collected the poor remains of the Roman army, and by his valour, activity, and remarkable patience in enduring fatigue, vanquiſhed Sapor king of Perſia in ſeveral engagements, advancing with his victorious troops as far as Cteſiphon, the capital of his empire. On his return from this expedition, with the greateſt applauſe, and with conſiderable treaſures, Gallienus declared him Auguſtus, and his aſſociate in the government of the empire. Odenathus afterwards defeated Baliſta, who aſpired to the empire, and at length drove out the Goths, who had committed the greateſt ravages. This was his laſt exploit, and it is thought, that in this expedition he was treacherouſly murdered by his kinſman Mæonius; his ſon Herodes ſoon after ſuffered the ſame fate. Mæonius was then ſaluted emperor, but in a ſhort time after was cut to pieces by his own ſoldiers.

ODENATHUS left behind him his wife, queen Zenobia, and two ſons he had by her, who boaſted her being deſcended from Ptolomy, and reckoned Cleopatra among her anceſtors. She had many great and amiable qualities. After the death of Odenathus, ſhe aſſumed the reins of government, in the name of her children; and renouncing the alliance with Rome, attacked, and entirely defeated Heraclianus, the Roman general. This victory left her in the poſſeſſion of Meſopotamia and Syria. She then, by means of Zabdas, one of her generals, conquered Egypt, and afterwards added the greateſt part of Aſia Minor to her dominions. How ſtrange and unaccountable are the viciſſitudes of fortune! A ſmall territory, in the midſt of a deſert, extends its conqueſts over many rich countries! The powerful kingdoms of the Ptolemies and the Seleucidæ form a part of the dominions of a ſingle city, whoſe name is ſought for in vain in their hiſtory; and Zænobia, encompaſſed by the barren ſands of Palmyra, includes Egypt within her dominions to the ſouth, and extends them to the north, as far as the Black-Sea and the Boſphorus. However, this new-raiſed empire was of very ſhort continuance; for a few years after, the emperor Aurelian recovered the eaſtern provinces, and forced Zenobia to ſhelter herſelf within the walls of Palmyra. He then inveſted that city, the queen rejected all negociations with contempt; but, after a brave defence, reſolving to ſollicit in perſon the aſſiſtance of the Perſians, ſhe ſet out on a dromedary; but juſt as ſhe was about to croſs the Euphrates, had the misfortune to be taken priſoner by a party of horſe ſent after her by Aurelian. The inhabitants of Palmyra having thus loſt their queen, ſurrendered to the emperor's mercy, on which he ſpared their lives,

lives, and marched to Emiſſa with Zenobia, carrying with him a great part of the riches of the city, and leaving there a garriſon of 600 archers. At Emiſſa the emperor enquired into Zenobia's motives for reſiſting him with ſuch reſolution, and upon this occaſion ſhe ſtained her glory, by purchaſing a diſhonourable life at the expence of her friends, whom ſhe meanly betrayed: ſhe mentioned thoſe who had been her adviſers; on which Aurelian had the cruelty and injuſtice to ſacrifice them to his reſentment, while ſhe was reſerved to adorn his triumph. Among thoſe who ſuffered was Longinus, who wrote upon the ſublime, and had dictated a haughty letter his miſtreſs had wrote to the emperor; but the intrepid courage with which he ſubmitted to his fate, ſhews, that his bravery was equal to his learning.

THE misfortunes of Palmyra were not yet ended: when a free people are from the height of glory ſuddenly reduced to ſlavery, they generally take ſome deſperate meaſures for their deliverance. The Palmyrenes cut off the Roman garriſon, and Aurelian hearing this news as he was returning to Rome, ſpeedily turned back, and taking the city, deſtroyed it, cauſing almoſt all the inhabitants to be maſſacred, without regard to age or ſex. We are informed of the particulars of this cruelty by the emperor himſelf, who in the letter he wrote to Baſſus, to order him to repair the temple of the ſun, which had been much damaged by the ſoldiers, appropriates to that uſe 300 pounds weight of gold found in Zenobia's coffers, with 1800 pounds weight of ſilver, which belonged to the people, beſides the crown jewels. Palmyra having thus loſt its liberty, continued ſubject to a Roman governor; and we find that Juſtinian repaired and ſupplied it with water, after its having

been for some time almost deserted. This is the last time in which Palmyra is mentioned in the Roman history. The civil revolutions of this city afford a proof, that christianity could not be long established there, whence it is the less surprizing, that ecclesiastical history furnishes nothing worth the pains of repeating; and there is no means of knowing what has happened to it since the destruction of the eastern empire by the Mahometans.

NEXT to the ruins of Palmyra, there are none which more attract the attention of travellers than those to be seen at Balbec, a town about thirty miles north of Damascus. In describing these ruins, we shall take for our guide the learned Mr. Wood, who observes, that the valley of Bocat, in which Balbec is situated, is of considerable extent, and is one of the richest and most beautiful spots in Syria, it being more fertile than the celebrated vale of Damascus, and better watered than the rich plains of Rama and Esdraelon. The city is agreeably seated on a rising ground, near the north-east extremity of this plain; and there is not the least doubt of its being the Heliopolis of Cœlo-Syra, sometimes called the Heliopolis of Phœnicia. It at present contains about five thousand inhabitants, a few of which are Greek and Maronite Christians, and some Jews; but the people are poor, and without trade and manufactures. Our author, after having visited the ancient cities of Greece, Egypt, and Asia, observes, that he cannot help thinking the ruins of Balbec the remains of the boldest plan that appears to have been ever attempted in architecture.

THE traveller, on viewing this city from the south, sees the present town encompassed with its walls; and at the east end, the most considerable ruins of the ancient Heliopolis, particularly the remains

Ruins of the Great Temple *Ruins of Balbec.*

J. Collyer Jr.

J. Collyer sculp.

Ruins of the Great Temple *Ruins of Balbec.* *North View of the Quadrangle.*

remains of its magnificent temple. The portico, which formed the grand front of that ſtructure, is ſo noble, that no ornaments ſeem wanting to render it compleat: but it is disfigured by Turkiſh towers erected on its ruins. Behind it an hexagonal court, into which the portico leads, is adorned with the moſt magnificent buildings, now in ruins; but enough ſtill remains to give an idea of their ancient grandeur. The walls are embelliſhed with pilaſters of the Corinthian order, and with niches for ſtatues; the doors are finely ornamented, and the entablature, which ſurrounds the building above the pilaſters, is richly adorned with feſtoons; but the colonade, which encompaſſed theſe edifices, has ſcarcely any thing remaining but the pedeſtals; and the whole court is covered with broken columns, capitals, and other parts of the buildings. This opens into a quadrangular court, in which are likewiſe the remains of magnificent edifices, much in the ſame taſte. The portico was crowned with an Attic courſe, which was carried through the two courts, and appears to have been adorned with ſtatues.

On your paſſing through the portico and the two courts, you come to the great temple, of which little more remains than nine lofty columns, which ſupport their entablature. It is very remarkable, that the ſhafts of theſe columns conſiſt of three pieces exactly joined, without cement, which is uſed in no part of theſe buildings, they being only ſtrengthened with iron pins received into a ſocket cut in each ſtone. Moſt of the baſes have two ſuch ſockets, one ſquare, and the other circular, correſponding to two others of the ſame ſhape and dimenſions, in the under part of the ſhaft. On meaſuring ſome of the largeſt of thoſe that were circular, it was found, that the iron pin

which they received muſt have been a foot long, and above a foot in diameter; and by the ſockets, in all the fallen fragments of this temple, it appears, that each ſtone was faſtened in the ſame manner. How much this contributed to the ſtrength of the building is ſeen in another temple, which is more entire, where a column has fallen againſt the wall, with ſuch violence, as to beat in the ſtone it fell againſt, and break part of the ſhaft; yet the joinings in the ſame ſhaft have not been in the leaſt opened by the ſhock. The moſt entire temple is placed irregularly with reſpect to the former, and is erected upon a much lower horizontal plain. It has ſtill a peryſtyle of eight columns in front, and fifteen in flank, which continue to ſupport their entablature, though the Turks have made ſeveral attempts to deſtroy them, in order to obtain the iron uſed in ſtrengthening this noble ſtructure. The arch of the portico is divided into compartments by the richeſt carved work, and mouldings cut in the ſolid ſtone. Theſe compartments are in an alternate ſucceſſion of one hexagon and four rhombs, encloſing heads and figures in alto relievo. The rhomboid pannels contain heads of gods, heroes, and emperors; the hexagons likewiſe contain the heads of the ſame ſubjects, and ſometimes entire figures relating to the ancient mythology, as Ganymede riding on the back of an eagle, Leda, and the Swan, a half length of Diana, &c. On the inſide of the temple, a row of fluted Corinthian columns riſe to the top of the building, and ſupport a rich entablature. Between each column is a niche, finely ornamented; and above each niche, a tabernacle, or opening anſwering to it, ſupported by ſmall columns. The roof is fallen in, and many ſhrubs grow on the ruins of the entablature.

To

To the weſt of theſe magnificent remains of antiquity, is a noble circular temple, which, on the outſide, is of the Corinthian order, and within, both of the Corinthian and Ionic; but the ſhafts of all the columns are of one piece. The front of this temple is concealed, and greatly disfigured by Turkiſh houſes, and modern additions erected againſt it; and, on the inſide, the lower or Ionic ſtory is converted into a Greek church, and for that purpoſe is ſeparated from the Corinthian ſtory above.

ACCORDING to Mr. Maundrell, the ancient wall which encompaſſes theſe ſtately remains, is built with ſtones of ſuch a prodigious ſize, that thoſe of our famous Stonehenge are not to be compared with them. Three of the largeſt of theſe ſtones, lying end to end in the wall, are one hundred and eighty-three feet in length, one of them being ſixty-three feet long, and the other two ſixty a-piece. They are twelve feet deep, and their breadth the ſame; and, what is moſt aſtoniſhing, they are raiſed up into the wall above twenty feet from the ground. Theſe are the largeſt that travellers have taken notice of, but the other ſtones of this wall are of a vaſt bigneſs.

THE ſmall part of the city at preſent inhabited is near the circular temple; and within this compaſs are ſeveral moſques, with their minarets. The city-walls appear to be the confuſed patchwork of different ages; and the broken entablatures, pieces of capitals, and reverſed Greek inſcriptions, which appear in going round them, ſhew that they were repaired, after the decline of taſte, with ſuch materials as lay neareſt at hand.

AT an inconſiderable diſtance from the walls of the city is a quarry of free-ſtone, from which the immenſe ſtones employed in the body of the great temple

temple were probably taken, while the ornamental parts of thoſe buildings were ſupplied by a quarry of coarſe white marble, at a greater diſtance to the weſt of the city. There are ſtill remaining in the firſt quarry ſome vaſt ſtones, cut and ſhaped for uſe. One of them, thus ſhaped, but not entirely detached from the quarry at the bottom, is ſeventy feet long, fourteen broad, and fourteen feet five inches deep; whence it muſt contain fourteen thouſand one hundred and twenty-eight cubic feet; and were it Portland ſtone, would weigh about two million two hundred and ſeventy thouſand pounds averdupois, or about eleven hundred and thirty-five tons.

ALL the inhabitants of this country confidently maintain, that both Balbec and Palmyra were built by Solomon; and it is probable, ſays our author, that his character, as a wiſe and yet voluptuous prince, may have given riſe to an opinion, which, with reſpect to Balbec at leaſt, ſeems to have ſcarce any other foundation; for no where could an eaſtern monarch enjoy a more luxurious retirement than amidſt the ſtreams and ſhades of Balbec. The natives relate many ſtories of the manner in which he ſpent his hours of dalliance in this retreat: a ſubject on which the warm imagination of the Arabs is apt to be too particular. Our author imagines, it may be more reaſonably enquired, whether the Phœnicians did not erect theſe temples in the neighbourhood of their capital; for, according to Macrobius, the city obtained both its name and worſhip from Heliopolis in Egypt, and that the ſtatue of Heliopolitan Jove was brought from thence to this city. "This "divinity, ſays he, was both Jupiter and the "Sun, which appears by the rites of the worſhip, "and by the attributes of the ſtatue, which is of "gold,

" gold, repreſenting a perſon without a beard, " holding in his right hand a whip, like a cha- " rioteer, and a thunderbolt, with ears of corn " in his left; all which point out the united " powers of Jupiter and Apollo."

BUT inſtead of conſulting the Jewiſh and Phœnician hiſtory, adds our ingenious and learned author, for buildings of the Corinthian and Ionic order, it may be thought more proper to ſearch for them, during the time when this country was in the poſſeſſion of the Greeks: but we do not find them mentioned from the period when it was conquered by Alexander, to that when it was ſubdued by Pompey. Hence it may reaſonably be concluded, that they were works of a later date; and indeed John of Antioch obſerves, that Antoninus Pius erected a temple to Jupiter at Heliopolis, near Libanus in Phœnicia, that was one of the wonders of the world; and this is the only hiſtorian who mentions the building of a temple at Balbec.

IF we proceed from Balbec to the ſea-coaſt of Syria and Phœnicia, we ſhall find ſeveral cities that have been famous in hiſtory, but have now loſt great part, or all of their ancient ſplendor, of which the ruins ſpread about them are evident teſtimonies. Sidon in particular, which may properly enough be termed the metropolis of Phœnicia, as it ſeems to be the oldeſt city in that country, though it be ſtill pretty populous, has loſt its former magnificence as well as extent; which is manifeſt from the many beautiful pillars, and other fragments, that lie ſcattered up and down the gardens, without the walls of the preſent city. Beſides theſe, many curious antiquities are obſcured and buried by the Turkiſh buildings.

THE

THE celebrated city of Tyre is another melancholy inſtance of the inſtability of human grandeur, which is ſo far fallen from its ancient ſtate of magnificence, that it is nothing but a mere Babel of decayed and broken walls, fragments of pillars, pieces of antique marble, and great heaps of rubbiſh, ſcarce one houſe being left entire.

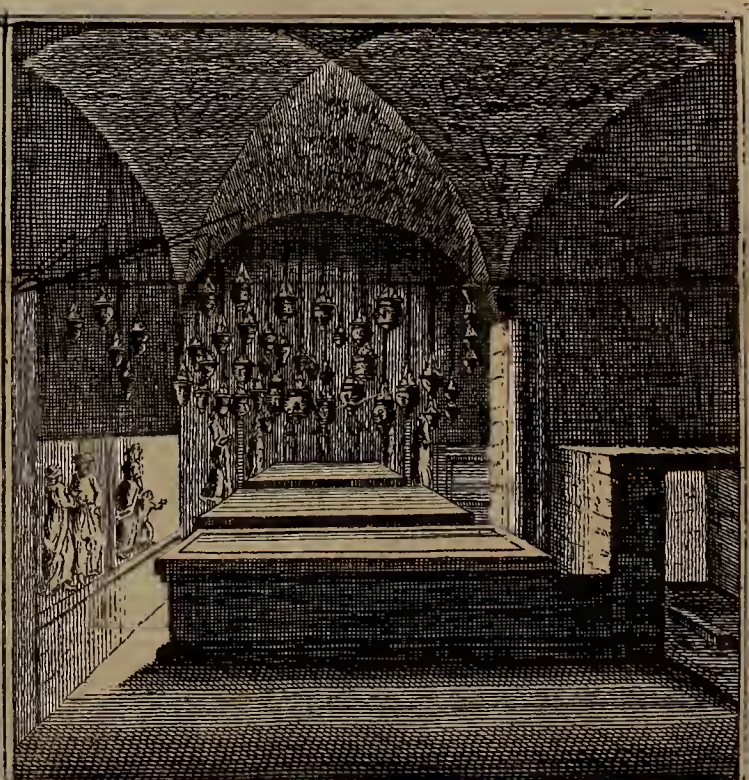
WE now come to take a view of Jeruſalem, that once famed metropolis of the Jewiſh monarchy and worſhip, whoſe origin, glory, and dreadful cataſtrophe, are too well known to be here related. It is ſituated on a rocky mountain, with ſteep aſcents on all ſides except on the north, and ſurrounded with a deep valley, which is again encompaſſed with hills at a moderate diſtance. The private buildings are very mean, the ſtreets narrow, and ſeveral of them full of ruins; and, though its circumference is ſcarce three miles, it is but thinly inhabited. It is likewiſe to be obſerved, that the ſituation of the preſent Jeruſalem is different from that of the ancient city; for mount Calvary, which was formerly appropriated to the execution of malefactors, was ſhut out of the walls, as a polluted place; whereas, ſince our Saviour's ſuffering upon it, the reverence paid to it by the Chriſtians on that account, has occaſioned ſuch an alteration, that it now ſtands almoſt in the centre of the city; and, on the contrary, mount Sion, the moſt eminent part of the old Jeruſalem, is now left without the walls. In a word, the only thing that renders Jeruſalem conſiderable at preſent, is the great reſort of pilgrims thither; and the accommodating them with neceſſaries ſeems to be the principal buſineſs of the inhabitants.

IT is againſt Eaſter that the Chriſtian pilgrims repair to Jeruſalem in the greateſt numbers, to attend

A. *The flat Cupola of the Church of the Holy Sepulcre covered only at Top with a wide Iron Grate thro' which it receives its Light & exactly under it stands our* Saviour's *Sepulcre,*
B. *The Round Cupola of the Church of the Holy Sepulcre.* C. *The Steeple of the Holy Sepulcre.*
D. *A Turkish Mosque called Solomon's Temple, built on the same Ground where Solomon's Temple stood*
E. *The Church of the Presentation.*

THE CHURCH OF THE HOLY SEPULCRE &c.

The Inside of the flat Cupola and the Appearance of the outside of the Holy Sepulcre.



The Inside of ye Holy Sepulcre and ye Grave of our Saviour *which is illuminated with 44 Silver Lamps large and Small as appears from this nice Draught. These Lamps hang and burn night and day, and were presented by the 44 Emperors and Kings of France, Spain, Poland, Portugal &c.*

attend the religious solemnity of that season in the church of the Holy Sepulchre. This church, with many others throughout Palestine, was founded by the empress Helena, mother of Constantine the Great, whose piety led her to take a view of a country which had been the theatre of the redemption of mankind, and particularly the city of Jerusalem, which, to the utmost of her power, she enlarged and adorned with magnificent structures. The length of this church, which is built upon mount Calvary, is about an hundred paces, and its width sixty, having at the west end of it a square tower or steeple, which appears somewhat ruinous, but the edifice in general is kept in good repair, and looks sumptuous and majestic. The nave or body of the church is round, and has two circular galleries, one above another, supported by large square pillars, formerly faced with white marble. Here we see several mosaic pictures in concave niches, representing prophets, apostles, &c. and amongst the rest are the effigies of the emperor Constantine, and his mother Helena, the foundress of the building. This part of the church is covered with a dome, sustained by rafters of cedar, having an opening at top, through which it receives a sufficient light. Exactly underneath this aperture is the holy sepulchre, which at first was a cave under-ground, but the rock about it having been cut away, it is now considerably above the pavement of the church, and is hewn into the form of a chapel. We are forced to creep into this chapel or grotto, if we may call it so, the entrance being not above a yard high; but within it is about eight feet square, and as much in height, all cut out of the solid rock, and lined with white marble. The tomb wherein our Lord was laid, is raised in form of an altar, almost three feet

feet from the floor, extending the whole length and half the breadth of this little chapel, ſo that there is not room for above three perſons to kneel without much inconvenience. A great number of lamps, which are kept here continually burning, make the place exceſſively hot, the ſmoke whereof evades by vent-holes cut through the roof, over which there is a ſmall canopy covered with lead, ſupported by ſix double Corinthian columns. The outſide of the chapel is likewiſe adorned with ten beautiful pillars of white marble, adjoining to the wall, and ſuſtaining a cornice.

THE choir of this church is not unlike that of our cathedrals. It is ſeparated from the nave by a wall, which has a door oppoſite to that of the holy ſepulchre; and to the eaſt it terminates in a ſemicircle, where the high altar ſtands, which is richly gilt, and hung round with the pictures of ſeveral ſaints, painted full-faced after the manner of the Greeks, to whom the choir belongs; but the privilege of ſaying maſs in the chapel of the holy ſepulchre is confined to the Latins. A dome of free-ſtone covers this choir, which is cloſe at top, rough-caſt on the outſide, and ſupported by large pillars.

SEVERAL parts of this church are diſtinguiſhed by the name of Holy Places, and looked upon with more than ordinary veneration, as having ſome particular actions done in them relating to the ſufferings, death, burial, and reſurrection of our bleſſed Saviour; and each of theſe ſacred places has its reſpective altar.—One of theſe is called the Chapel of Deriſion, wherein there is an altar ſuſtained by two pillars, and underneath it a piece of greyiſh marble, on which they ſay the ſoldiers placed our Saviour when they crowned him with thorns, and mocked him, ſaying, Hail King

King of the Jews.—The chapel of the Priſon is another, being a little dark place, wherein they ſay our Lord was confined whilſt things were preparing for his crucifixion, and where the Greeks keep a lamp continually burning.—Another of the Holy Places is a particular part of mount Calvary, about twelve yards ſquare, which is left much higher than the floor of the church, having ſteps to go up to it; and here they pretend to ſhew the very place where our Saviour was nailed to the croſs. This chapel is covered all over with moſaic work; and in the middle of the pavement there are ſome marble ſtones of ſeveral colours, deſigned to point out the ſpot where our Lord's blood fell when his hands and feet were pierced. Here are two altars, before which hang ſixteen lamps, and a candleſtick with twelve branches.—In an adjoining chapel the rock riſes above the floor in form of an altar, which is covered with white marble, and in the middle of it is a round hole, about ſeven inches in diameter, and two feet deep, which is affirmed to be the very ſame wherein the foot of the croſs was fixed, on which our Saviour ſuffered; and juſt by we ſee a cleft in the rock, which is evidently genuine and natural, and ſaid to be made by the earthquake which happened at that time. This hole is now plated with ſilver, and on each ſide of it the places where the two thieves were crucified are repreſented by two croſſes fixed on little marble pedeſtals.—The Stone of Unction is about ſeven feet long, and two broad, adorned all round with a chequered border of white and red marble, and incloſed within iron-rails, to prevent its being trod upon. It is ſo called, as being ſuppoſed to be the very ſpot where our Lord's body was anointed, and prepared with myrrh and aloes for the burial.—To

theſe might be added ſeveral other Holy Places, as that where the ſoldiers divided our Saviour's garments; where he appeared to Mary Magdalen after his reſurrection, &c. all which things are ſuppoſed to have been tranſacted within the narrow limits of this ſacred ſtructure.

THERE are many more remarkable things in and about the city of Jeruſalem, ſome of which it ſeems proper to mention, as they are generally ſhewn to travellers. Upon mount Moriah the Turks have built a moſque, which is frequently called the Temple of Solomon, and is ſuppoſed to ſtand upon the ſame ground that was formerly taken up by the Holy of Holies. It is an octogonal building, covered with a cupola, and tho' it is neither a large nor elegant ſtructure, it makes a grand appearance from the ſole advantage of its ſituation. The Turks have incloſed the area where Solomon's temple formerly ſtood, and will not ſuffer a Chriſtian, on pain of death, to go within its borders; but it may be diſtinctly viewed from the top of a houſe called Pilate's Palace, and one may plainly ſee, that it muſt have coſt immenſe labour to level ſuch a ſpacious area upon ſo ſtrong and rocky a mountain.

FROM this pretended palace of Pilate, wherein the Turkiſh ſangiack now reſides, begins what the Chriſtians call the Dolorous Way, that is, the way that our Lord was led to Calvary, the place of his crucifixion, which is about a mile diſtant. In this journey we paſs under an old arch that croſſes the ſtreet, in the ſide of which there is a window, where Pilate is ſaid to have preſented Chriſt to the people, ſaying, Behold the Man: and a little farther we are ſhewn the ruins of a church, built on the place where the Bleſſed Virgin is reported to have fallen into a ſwoon,

ſwoon, on ſeeing our Lord bearing his croſs, and uſed with indignity. We likewiſe paſs by the Gate of Judgment, through which malefactors were anciently led to the place of execution, and which ſtood in the weſtern wall of Old Jeruſalem, but is now conſiderably within the city.

AMONGST other antiquities, they ſhew us an ancient building, which is made uſe of as a priſon, and is the very ſame (they ſay) from which St. Peter was delivered by an angel. About a furlong from thence ſtands an old church belonging to the Greeks, ſaid to have been erected by the pious Helena, upon the ground where the houſe of Zebedee formerly ſtood, who, they tell us, was a fiſherman, and uſed to bring fiſh from Joppa to Jeruſalem. Where the houſe of Mark ſtood, to which St. Peter retired after his miraculous deliverance, the Syrians have a ſmall church, wherein they boaſt of having a Syriac manuſcript of the New Teſtament about nine hundred years old, and a little ſtone font made uſe of by the apoſtles themſelves.

IT would be endleſs, or at leaſt tedious, to enumerate the pretended curioſities with which ſtrangers are amuſed; and therefore we ſhall take leave of Jeruſalem, after having mentioned a few particulars obſervable in its neighbourhood. Going out of the city, at the gate of Bethlehem, we ſee Bathſheba's Pool, as it is called, being ſuppoſed to be the ſame wherein ſhe was waſhing herſelf when David ſpied her from the terrace of his palace. Paſſing by this pool, we enter the valley of Hinnom, on the weſt ſide whereof is the Potter's Field, or Aceldama, that is, the Field of Blood, being purchaſed by the thirty pieces of ſilver, the price of the innocent blood of our Saviour. At preſent it is called the Holy Field, on account

account of the veneration it has among Chriſtians. The piece of ground is only about thirty yards long, and half as much in breadth, being now the burying-place of the Armenians. One half of it is taken up by a ſquare fabrick, near twelve yards high, over which are five openings, in the form of cupolas, large enough to let down a corpſe, the fleſh whereof it is ſaid to conſume in the ſpace of eight and forty hours. The Chriſtians in Jeruſalem give credit to this account; but Mr. Maundrell ſays, that looking through the holes at top, he could ſee many bodies under ſeveral degrees of decay; from whence he conjectures, that this grave does not make ſuch quick diſpatch with the corpſes committed to it as is commonly reported.

NOT far from this field we ſee a cave hewn out of the rock, conſiſting of ſeveral rooms one within another, wherein the apoſtles are ſaid to have concealed themſelves when they forſook their maſter, on his being apprehended in the garden. This cave was perhaps at firſt made for a ſepulchre, and might afterwards ſerve for a hermitage; but, be that as it will, it appears to have been formerly adorned with painting and gilding, and ſome pretend ſtill to diſcern the pictures of ſeveral of the apoſtles. From hence we ſoon come to the valley of Jehoſhaphat, where we ſee the well of Nehemiah, or rather a dry pit, ſaid to be the place from whence he recovered the fire of the altar, which had lain hid there during the time of the Babyloniſh captivity. On the ſame ſide of the valley is the pool of Siloam, whither our Saviour ſent the blind man to waſh, after having anointed his eyes with earth and ſpittle. About a furlong from hence is the fountain of the Bleſſed Virgin, to which we deſcend by ſeveral ſteps, the ſpring lying deep

deep in the cavity of a rock. At no great distance from this place they shew us the spot where Judas hanged himself, after he had betrayed our Saviour; and a little farther, on the same side of the valley, we see several Jewish monuments, two whereof seem to be valuable antiquities, usually called the Sepulchre of Zachary, and the Pillar of Absalom.

THE first of these, supposed to be that of Zachary, who was slain between the temple and the altar, is cut out of the natural rock, and is of a quadrangular form, about six yards high, beautified with Doric columns, which support the cornice; and above that the roof rises in the shape of a pointed diamond. Absalom's pillar is lofty, and its sides and corners adorned with Doric pilasters; but after it has run a little way in a square form, it changes into a round, and terminates in a point, the top of it being almost shaped like a bell. A great many stones lie near this monument, thrown there by Turks and Jews, as well as Christians, in detestation of Absalom's rebellion against his father.

KEEPING along the bottom of the valley, we come to the Sepulchre of the Blessed Virgin, made at the expence of the pious empress heretofore mentioned. That part of it above-ground is a square building, flat at the top; and on the south side of it is a door, from whence there is a descent of about fifty steps. When we are half way down, they shew us on the right hand the sepulchre of Anna, the mother of the Blessed Virgin, and on the left, that of Joseph her husband. At the bottom of the stairs we enter a spacious church, walled on each side, and arched above with the natural rock. In the middle of the church is a little square chapel, faced with marble; and opposite to the door is the virgin's tomb,

tomb, in form of an altar, where they say she was buried by the apostles. The Turks, as well as Christians, have a great veneration for this place, and contribute to the charge of eighteen lamps, which are kept here continually burning. Each end of the church is semicircular, in one of which stands the great altar, upon which the light descends from a cupola above, and at the other end is a well of very good water.

CROSSING the valley of Jehoshaphat, we come to mount Olivet, or the Mount of Olives, the loftiest eminence in the neighbourhood of Jerusalem, which overlooks the highest part of the city, and is held in extraordinary veneration by the Christians, and even by the Mahometans themselves. Half way up the hill we come to several grottos, called the Sepulchres of the Prophets; and a little higher is a grotto or subterraneous church, consisting of twelve arched vaults. On the top of this hill, from whence the Saviour of the world ascended into Heaven, the empress Helena caused a magnificent church and monastery to be erected, the greatest part whereof is now in ruins; but there is a little octogonal chapel still remaining, with a dome over it, sustained by eight pillars of white marble. This is called the Chapel of the Ascension, and is at present in the possession of the Mahometans, who make the Christians pay a small matter for admission to see a cavity in the rock, which they pretend is the print of one of our Saviour's feet.

BETWEEN the foot of mount Olivet and the brook Cedron, we are shewn the garden of Gethsemane, a piece of ground about sixty yards square, and planted with olive-trees of an uncommon size, which are said to be the same that grew in the time of our Saviour. At the upper end of the garden

garden is a flat naked rock, where they say the apostles fell asleep during our Lord's agony; and near this place is a grotto, wherein our Saviour is supposed to have undergone that bitter part of his passion, when his sweat was as it were great drops of blood falling to the ground.

FROM Jerusalem it is usual to make an excursion to Bethlehem, which is now dwindled to a small village, but will be ever memorable for being the birth-place of the Saviour of mankind, and on this account it is much resorted to by pilgrims. Here we find a magnificent church, built by the empress, so often mentioned, over the very spot where our Saviour is supposed to have been born. We enter this edifice through a portico supported by sixteen pillars, and coming into the nave or body of the church, we find its lofty roof, which is of cedar, supported by four rows of marble columns. The choir is large, and terminates in a semicircle, where stands the high altar; and on each hand are two other divisions, with their respective altars. A noble cupola, leaded on the outside, and adorned within with mosaic figures, covers this part of the church; and near the great altar are two little flights of marble steps, by which we descend into the Chapel of the Nativity, where there is an altar, with several lamps continually burning before it. Descending a few steps lower, we are shewn the manger wherein our Lord was laid, which is hewn out of the rock, about two feet high from the floor, and is lined with white marble.

AT a little distance from the Latin convent is the Grotto of the Virgin, held in great veneration, on account of a tradition that the virgin Mary hid herself there with her son Jesus, to avoid the fury of Herod, whilst Joseph made the neces-

ſary preparations for their departure into Egypt. It is of a circular form, cut out of a chalky rock, and has an altar in it, where maſs is ſometimes celebrated.

ABOUT four miles ſouth of Bethlehem are thoſe famous fountains or pools, ſaid to have been the contrivance and delight of Solomon. They are three in number, one above another, and ſo diſpoſed, that the waters of the uppermoſt deſcend into the ſecond, and thoſe of the ſecond into the third. Their form is quadrangular, and each of them about ninety paces broad, but as to their length they are ſomewhat different. They are very deep, and lined all round with a wall, except where the natural rock makes it unneceſſary; and indeed it muſt be acknowledged they are a work not unworthy of that wiſe prince whoſe name they bear, and contain ſuch a ſtore of excellent ſpring-water, as perhaps cannot be found in any other part of Paleſtine.—The remains of an aqueduct, which conveyed water from hence to Jeruſalem, are ſtill to be ſeen, being a ſort of coarſe marble ſtones, perforated and let into one another after the manner of pipes, and, for their better preſervation, covered over with a caſe or arch of ſmaller ſtones, cemented together with a very durable mortar; and yet as ſtrong as this work has been, the Turks and Arabs have ſo deſtroyed it, that though it formerly extended five or ſix leagues, there are only ſome fragments of it here and there remaining.

BUILDINGS.

NEXT to Conſtantinople perhaps Aleppo is the moſt opulent and conſiderable city in Turky, if any judgment may be formed from its publick

publick ſtructures; there being about a hundred and twenty moſques within and without the walls, and ſome of them very magnificent. The principal of theſe, ſuppoſed to have been built by the empreſs Helena, is a ſumptuous edifice, and has a large court before it paved with black and white marble, and a great baſon with a dome in the middle, ſupported by ſix marble pillars. On the ſouth there is a fountain covered with another dome of like ſtructure; and round this court runs a noble portico of ſeventeen arches on one ſide, and eleven at each end, under which the Turks are frequent at their devotions.——Some other moſques in Aleppo are not much inferior to this, particularly one with a large and lofty dome covered with lead, as moſt are in Turky, which with the tall ſlender minarets make their cities look very handſome at a diſtance. Here are alſo ſome Turkiſh monaſteries, one of which is a moſt ſtately building, adorned with a noble fountain, and having a fine hall paved with marble, and covered with a cupola.

THE great moſque of St. John at Damaſcus, formerly a Chriſtian church, is three hundred paces in length, and ſixty in breadth, and has a fine court before it, paved with ſtone. On the three ſides of this court, which is about a hundred and fifty yards long, and eighty or a hundred broad, is a double cloiſter, ſupported by two rows of granite columns of the Corinthian order, which are exceeding beautiful and lofty. The building itſelf has twelve large gates covered with braſs and Arabic characters. The inſide is ſaid to be finely adorned with gold and azure, but it is not eaſy to come at a ſight of it, for no Chriſtian is permitted to enter it without forfeiting his life or his religion. In this moſque the Turks pretend

to have the head of St. John, and some other relics; and they here maintain, that at the day of judgment, Christ will descend into this mosque, as Mahomet will into that of Jerusalem.

But of all the Turkish mosques, none are had in greater veneration, than that of Mecca, which is resorted to at certain seasons by prodigious numbers of Mahometan pilgrims. The Beat Allak, or Holy Temple, at Mecca, towards which the disciples of Mahomet turn their faces when they pray, and to which they are obliged to make a pilgrimage at least once in their lives, either in person or by proxy, is a little plain, square building, in the midst of a spacious area, encompassed by piazzas on the inside *, much like those of the Royal Exchange in London; but the square is near ten times as large; and over the piazzas is a range of domes on each side, which cover little rooms or cells, the habitations of such as give themselves up to reading and a devout life. At each corner is a minaret or steeple, from which the criers call the people to prayers. The area on each side of the enclosure is covered with gravel, except some paths that lead to the temple. Under these piazzas are forty-two doors leading into the square. The Beat Allah, or temple, which stands in the center, is a square

* This account is extracted from a work published by Mr. Joseph Pitts, who being taken captive by the Algerines, was by the force of torture inflicted upon him by a cruel bigot, his master, unhappily compelled to seem to embrace the religion of the country, when assuming the garb and manners of a Mahometan, he was admitted into their mosques, and allowed to visit the supposed sacred places of Mecca and Medina; but afterwards had the happiness to escape to England. From this account the reader will see the little credit to be given to those authors, who describe, in the most pompous terms, places which it was impossible for them to see.

solid

ſolid ſtructure, near twenty-four paces each way, and about twenty feet high, formed of large ſtones, perfectly ſmooth and plain, without the leaſt carved work. It is covered all over from top to bottom with a thick ſilk; and above the middle part of the covering, are letters of gold embroidered all round, containing ſome devout expreſſions. The threſhold of the door is as high as a man can reach; and therefore when any perſon enters, ſteps are brought for him to aſcend. The door is plated all over with ſilver; and a covering hangs over it, that reaches to the ground; but is turned up all the week, except from Thurſday evening to Friday evening, their ſabbath. This covering of the door is ſo thick embroidered with gold, that it weighs ſeveral ſcore pounds. The top of the building is flat, and covered with a mixture of lime and ſand. It has a long ſpout to carry off the water when it rains; at which times the people throng and ſtruggle to get under it, that the water which comes off the temple may fall upon them, which they eſteem a great happineſs; and their joy is exceſſive if they can catch ſome of it to drink. A marble pavement, fifty feet broad, extends round the temple; on the edge of which are erected braſs pillars, twenty feet diſtance from each other, and near fifteen feet high. Above the middle part of them, an iron bar extends from one to the other, with a braſs lamp hanging to each, by a braſs wire, to give light in the night; for while the pilgrims ſtay at Mecca, they pay their devotions, as much by night as by day.

AT about the diſtance of twelve paces from the temple, is a building called the Sepulchre of Abraham, who they imagine built the temple by God's command. This ſepulchre is encloſed with

iron grates, and adorned with a very handſome embroidered covering. At a ſmall diſtance from it, on the left hand, is the Well Zemzem, the water of which is eſteemed holy; on which account the pilgrims, when they firſt arrive at Mecca, drink of it unreaſonably; by which means it not only purges them, but makes their fleſh break out in pimples; and this they term, the purging away of their ſpiritual corruptions. Many of them carry ſome of this water home to their reſpective countries in little tin pots, and preſent, perhaps, half a ſpoonful of it to each of their friends, who receive it with abundance of thanks, in the hollow of their hand; and ſipping a ſmall quantity of it, rub the reſt on their faces, and naked heads.

OPPOSITE each ſide of the temple is a ſmall ſtructure, ſupported on pillars, where the Imaum and the clerks perform their devotions, in the ſight of all the people. Theſe ſtructures belong to different ſects of Mahometans. The temple is the principal object of the pilgrims devotion, and is opened only two days in the ſpace of ſix weeks; one day for the men, and the next for the women. On the inſide are only two wooden pillars, which ſtand near the middle to ſupport the roof, with a bar of iron faſtened to them, on which hang three or four ſilver lamps. The walls on the inſide are of marble, and covered with ſilk, except when the pilgrims enter. Thoſe who are admitted into this ſtructure ſcarcely ſtay ten minutes, becauſe others wait for the ſame privilege; and while ſome are going out, others are entering in. All the Mahometans who pleaſe, have the liberty of thus paſſing through the temple. The covering of this ſtructure is annually renewed, and ſent from Cairo, by order of the Grand

Grand Signior, when the caravan proceeds with the pilgrims to Mecca. The new covering is carried upon two camels, which are exempted from work for the ſpace of a year after. This covering is received with extraordinary joy by the people, who kiſs the camels, and bid them welcome. The old covering being pulled down, the new one is put up by the Xerif of Mecca himſelf; and after he has cauſed the old covering to be cut in pieces, he ſells them at a high price to the pilgrims.

At Mecca are ſeveral thouſand blue pigeons, which none will affright, and much leſs kill them; whence they are ſo very tame, that they will pick corn out of the people's hands. They are called the pigeons of the prophet, and come in flocks to the court of the temple, where they are fed by the pilgrims.

It ought not to be omitted that this holy houſe, which the vulgar ſay was built by Abraham, had long been an idol temple; but was dedicated by Mahomet to the Unity of God; and that their pilgrimages thither are intended to ſhew their deteſtation of all idolatry.

We ſhall now proceed to Medina, the place where Mahomet lies entombed, to which he fled when driven from Mecca, and where he was firſt inveſted with regal power. It is ſituated about two hundred miles to the north of Mecca, and about eighty to the eaſtward of the Red Sea; and contains about a thouſand houſes built of brick and ſtone, which cannot be very lofty, as they are raiſed but one ſtory from the ground. There are, however, ſeveral noble moſques in this city, the principal of which is named the Moſt Holy. It ſtands in the middle of the town, and is a ſquare building, a hundred paces in length, and

eighty in breadth, ſupported by a great number of lofty columns. Some authors have pretended, that it has no leſs than three thouſand lamps; but Mr. Pitts, who was in it, maintains, that it has not above one hundred. In this moſque ſtands Mahomet's tomb, covered with a dome, and encompaſſed with iron rails: the tomb itſelf is ſurrounded by a ſilver grate, and encloſed like a bed, with curtains of rich ſilk. None are allowed to enter within the grate, for this is only permitted to thoſe who go in to light the lamps by night. Some pretend, that Mahomet's coffin is ſuſpended by the attractive virtue of a loadſtone fixed to the roof; but there is not the leaſt foundation for this abſurd opinion, for the curtains that cover the tomb are not half ſo high as the dome; 'tis therefore impoſſible that the coffin ſhould hang there, and the Mahometans never pretended that it did.

Of the ARABS.

HAVING had frequent occaſion to mention the Arabs, we think it not improper to conclude this article with a conciſe account of that people. The Arabs, who are generally ſuppoſed to be the deſcendents of Iſhmael, are of a middle ſtature, thin, of a ſwarthy complexion, and, like other people in the ſame climate, have black eyes and black hair. Their voices are rather effeminate than ſtrong, yet they are poſſeſſed of great bravery, and are very expert at the bow and lance. The roving Arabs wear a kind of blue ſhirt, girt round them with a white ſaſh, over which ſome of them wear a fur, or ſheep-ſkin veſt. They have a turban on their heads, and ſometimes wear ſlippers, but never ſtockings. Many of them go almoſt naked, while their women are generally ſo wrapped up,

up, that nothing can be discovered but their eyes. The women Mr. Wood saw at Palmyra, had good features; for though they were veiled, they were less scrupulous about shewing their faces than is usual with the women of the East. They hang rings of gold or brass in their ears and nose; they colour their lips blue, and the tips of their fingers red. Both sexes appear extremely healthy, and to be almost strangers to diseases.

THE food used by these people is beef, mutton, venison, goat's flesh, and the flesh of camels, which they prefer to all the rest, and eat with thin cakes made of flour and water, but many of them prefer dried grapes to bread. They also eat most sorts of fish, except those which have no scales; but on whatever animal they feed, they are very careful of draining out all the blood. The people about Muscat not only abstain from wine, but from tea, coffee, and other innocent liquors; nor do they indulge themselves in smoaking tobacco: water is their usual drink, and sometimes sherbet, made of oranges, water, and sugar.

THE people of the East esteem the Arabic the richest and most copious language in the world. It is every where considered by the Orientals as a learned language, and even in Persia and the Indies, the Koran is never read in any other tongue. But though the Arabs were once famous for their learning and skill in all the liberal arts, there is scarce any country where the people are now so universally ignorant as in Arabia.

IT was always the custom of the Arabians to pass their summer nights on the tops of their houses, which, for this purpose, were made flat, and divided from each other by walls. "This "way of sleeping, says the ingenious Mr. Wood,

" we found extremely agreeable, as by that means " we enjoyed the cool air above the reach of gnats " and vapours, with no other covering but the " canopy of heaven, which, in different pleasing " forms, unavoidably presents itself upon every " interruption of rest, when the mind is strongly " disposed to contemplation and silence. We " could no where discover more beauties in the " face of the heavens, nor fewer on the earth, " than in our travels, in the night, through the " deserts of Arabia, where it is impossible to " avoid being struck with the contrast, in which " a boundless dreary waste, without mountain or " valley, tree or water, or the least variety of " colours, offers a tedious sameness to the weary " traveller, while he is agreeably relieved, by " beholding that chearful, moving picture, which " measures his time, directs his course, and lights " his way." Hence our ingenious author, just mentioned, accounts for the worship paid by the ancient Arabians to the sun, moon, and stars, called in scripture, Baal, Astaroth, and the host of heaven. " The warm fancy of the Arab, " says he, soon felt the transition from wild ad- " miration to superstitious respect; and the pas- " sions were engaged before the judgment was " consulted."

THOUGH the Arabs, in this part of the world, are usually considered as only bands of robbers, yet, where they are settled, and apply to the cultivation of the earth, to trade, and the mechanic arts, they are justly distinguished by their justice, temperance, and humanity. Thus captain Say observes, that the Arabians near Muscat are courteous in their behaviour, extremely civil to strangers, to whom they offer no violence or affront; and though they have the highest veneration for

their

their religion, they never ſtrive to force it upon others: that a man may travel ſeveral hundred miles, without ſo much as meeting with abuſive language; and if he has a charge of money, he needs no arms to defend it, but may ſafely ſleep with it in his hand by the way-ſide; and that, though he himſelf lived ſeveral years in the country, during which he ſpent much of his time in travelling, he never heard of a ſingle robbery amongſt them. Indeed it is not ſurprizing, that in ſo extenſive a country as Arabia, the manners and cuſtoms of the people ſhould be very different. "It is true, ſays the author of a new ſyſtem of "geography, ſeveral Arabian princes extort money "from the caravans; but, as the country is theirs, "they might juſtly refuſe to let any caravans paſs "through it; and, poſſibly, what they impoſe "upon the caravans, may be by way of toll; "which is the more probable, as the ſums they "demand are not ſo large as to diſcourage the "caravans from paſſing through their dominions. "But after all, there is no doubt but ſome tribes "of the wandering Arabs live chiefly by robbery "and plunder. We find that Mr. Wood and "his companions, in travelling to Palmyra and "Balbec, had an Arabian eſcort, to defend them "from a prince of the Bedouins, or Wandering "Arabs; and that, on their arrival at Palmyra, "they ſlept in ſafety, in the huts of poor, but "honeſt Arabian peaſants."

The Arabs who live in towns are much inferior in number to thoſe who live in tents, and are called Bedouins. Theſe people have no fixed habitations; but being poſſeſſed of large flocks of ſheep, and herds of camels and goats, rove from one part of the country to another, where they can find paſture and water for their cattle; and

when they have deſtroyed all the forage, load their goods and baggage, with their wives and children, on their camels, and march in ſearch of freſh paſture. When they encamp, their tents generally make a very indifferent appearance, they being uſually covered with a coarſe ſtuff, made of black or dark-coloured goats hair. Theſe are the people dangerous to travellers; but if a traveller is liberal to them, they ſeldom do him any injury; nor are they, in this reſpect, the leaſt churliſh, but will invite ſtrangers to eat with them, as they paſs by their encampments, and are pleaſed to ſee them readily conform to their cuſtoms.

THOSE Arabians who are ſituated near the coaſt, have rendered themſelves formidable at ſea, particularly the king of Muſcat, whoſe veſſels not only attack thoſe of the Aſiatics, but even the Europeans, they being generally at war with the Danes and Portugueze. Their colours are red, which they diſplay in ſtreamers and pendents at the maſthead, and other parts of the ſhip, which gives their fleets a gay appearance.

Of the TRADE and MANUFACTURES of TURKY in ASIA.

SMYRNA and Aleppo are undoubtedly the moſt trading and flouriſhing cities in all the Aſiatic Turky, vaſt quantities of rich merchandiſe being continually tranſported thither from Perſia, Arabia, Tartary, and other countries, by caravans of mules and camels, and thence by ſea to all parts of Europe. M. Tournefort conſiders Tocat as the center of the trade of Anatolia, and, according to his account, that city is conſiderable for its manufactures, eſpecially thoſe of copper veſſels and utenſils, which they make very handſome, and ſend to Conſtantinople and Egypt.

They

They have their copper from mines about ten days journey from Tocat, towards the ſide of Angora, and from others three days journey from Trebiſond, but theſe are not ſo rich as the former. The painted cloth of Tocat is not ſo beautiful as that of Perſia, but they vend it in Muſcovy and Crim Tartary. Their ſilk manufacture is not inconſiderable, a great quantity of the Perſian ſilk, as well as Turkiſh, being uſed in making ſlight ſtuffs, buttons, frogs, &c.

THE city of Damaſcus in Syria is particularly famous for its manufactures of iron and ſteel, many thouſand hands being there employed in making ſcimetars, ſwords, knives, and other cutlery wares, which are in great requeſt all over Turky, on account of their excellent temper.—From this city the art of Damaſkeening likewiſe had its origin, as the name implies *; by which we mean that of adorning iron, ſteel, &c. by making inciſions therein, and filling them up with gold or ſilver wire, chiefly uſed in enriching ſword-blades, guards, locks of piſtols, &c. This art is partly moſaic work, partly engraving, and partly carving. As moſaic work, it conſiſts of pieces inlayed; as engraving, the metal is indented; and as carving, gold and ſilver are wrought therein in relievo. There are two methods of Damaſkeening, the firſt of which is moſt beautiful, viz. when the artiſt cuts the metal with tools proper for engraving, and then fills up the inciſions or notches with a pretty thick wire. In the other, which is only ſuperficial, the work-

* If the art had not its riſe at Damaſcus, the workmen of that city ſeem at leaſt to have excelled in it beyond thoſe of other countries; though M. Felibien attributes the perfection of the art to his countryman Curſinet, who was famous for it in the reign of Henry the Fourth.

man

man makes hatches or ſtrokes acroſs the ſteel with a cutting knife, ſuch as is uſed in making ſmall files. For the firſt, it is requiſite the gravings be made in the dove-tail form, that the wire, which is thruſt forcibly into them, may adhere the more ſtrongly. In the ſecond way, which is the moſt uſual, as being the moſt eaſy, they heat the ſteel till it changes to a violet or blueiſh colour, and having hatched it over, they draw the deſign or ornament intended with a ſmall braſs point or bodkin, and then conducting or chaſing the fine wire according to the figures deſigned, they ſink it carefully with a copper tool into the hatches of the metal.—It may be added, that to the artificers of Damaſcus we originally owe that ſort of ſilken ſtuff called Damaſk, which has ſome parts of it raiſed above the ground, repreſenting flowers or other figures.

THE manner of preparing Marroquin, commonly called Morocco or Turky Leather, which is brought to us from the Levant *, is ſo curious, and ſo little known amongſt us, that we think an account of it will be no diſagreeable concluſion of this chapter. This ſort of leather is the ſkin of a goat, or ſome animal reſembling it, frequent in the eaſtern countries, and is dreſſed black, blue, red, yellow, &c. In the preparation of theſe kinds of leather, the dry ſkins are ſoaked in water for three days together, and on being taken out, are ſtretched on a wooden horſe or leg like that uſed by tanners, and beaten. They are

* Some ſuppoſe, from the name, that the art of preparing theſe ſkins was firſt borrowed from the kingdom of Morocco, but of this there is no certainty. We have them indeed from Barbary, and ſo we have from France and Spain; but as they are chiefly brought from Aſiatic Turky, this ſeems a proper place to ſpeak of the art of dreſſing them.

then

then ſoaked in lime water every night, and taken out in the morning for thirty days together, the hair and fleſh are then taken off. After this they are beaten in different waters, and the ſoaking, ſtretching, and drying often repeated before they receive the dye; but the particular compoſitions uſed to give the various colours are ſecrets lodged in the breaſts of the artificers.

CHAP. II.

Of PERSIA.

SPRINGS.

THERE is not, according to the beſt accounts, a country in the world that has more mountains and fewer rivers than Perſia, and the ſoil in general is in many places perfectly ſandy and barren, though others are exceeding fruitful, producing plenty of grain and herbage. Nor is Perſia without its mineral waters, of which the moſt frequented are thoſe of Baringe, half a league from Tauris, and thoſe of Seid-Kent, another village ſix leagues from that city. Theſe waters are ſulphureous, and ſome of them ſcalding hot, whilſt others are ſurprizingly cold.—About ten miles from Aſſeen, at the foot of a high mountain lying north of Gombron or Bender-Abaſſi, there are ſeveral ſprings, both hot and cold, which are reſorted to for the cure of venereal diſorders, rheumatic pains, the itch, leproſy, and other cutaneous diſtempers; but they are only uſed externally by bathing, the water, if drank, being found a very powerful emetic. No people live near theſe baths, but a few ſheds have been

been erected for the accommodation of patients, who muſt take care to furniſh themſelves with all other conveniencies.—We might enumerate many other medicinal ſprings throughout this great empire, but their qualities being much the ſame, the repetition of them would be tedious.

FOSSILS.

AS Perſia is very mountainous, it abounds with metals and minerals, particularly copper, lead, and iron, and perhaps with gold and ſilver, but the Perſians are too indolent to make ſuch diſcoveries. They have likewiſe plenty of good marble; and near Bender-Congo, a ſea-port on the Perſian gulf, there are whole hills of ſulphur, from whence it is dug up in maſſes of different bigneſs, and ſent in conſiderable quantities to the Indies.

IN the eaſtern parts of Perſia, there is found a pale, yellow, looſe earthy ſubſtance or marle, wherein nitre or ſalt-petre* is lodged in imperceptible particles, as a metal in its ore, and is actually obtained from thence in great abundance. This earth is moderately heavy, eaſily crumbles to

* It is proper to obſerve, that the Nitre or Salt-petre of the moderns is a quite different ſubſtance from the Nitre or Natrum of the ancients, which, though it has been neglected and not perfectly known for many ages, is found in many parts of Aſia thrown up in little hillocks on the ſurface of the earth, in form of a coarſe looſe powder. This is what authors have uſually called Soop-Earth, and might, perhaps, at this day, be made a profitable branch of commerce, not to ſupply the place of our ſalt-petre, it being of a very different nature, but as it would anſwer the purpoſe of pot-aſhes in the making of ſoap and glaſs. Hence the prophet Jeremiah ſays, (chap. ii. 22.) "Though the ſinner waſhes "himſelf with nitre, yet his iniquity is marked before the "Lord;" it having an abſterſive or cleanſing quality.

powder

powder on handling, melts freely in the mouth, but leaves a grittineſs between the teeth, and a ſtrong ſenſation of ſalt-petre on the tongue. Its natural colour, as we have ſaid, is a pale yellow, but it is ſometimes found whitiſh, reddiſh, or almoſt black, from an admixture of other earths amongſt it, though the yellower it is, the ſtronger is the taſte of the nitre.

THE method of obtaining the ſalt from this earth or ore is by water, which does to it what fire does to the ores of metals. For this purpoſe a large deep pit is prepared, well lined on the inſide with clay, which being half filled with water, the earth is thrown into it, where it is broken and mouldered to powder, and all well ſtirred together. Having let it ſtand four or five days, they open a hole in one ſide of the pit, which lets out all the clear water into a channel, through which it runs into another wide and ſhallow pit, level at the bottom, ſurrounded by ſlight walls, except on the north-eaſt ſide, and open at the top to the ſun, whereby the water gradually evaporates, and the ſalt it had imbibed from the earth ſhoots into ſmall cryſtals, which are the rough ſalt-petre we receive from the eaſtern countries. This is the way of procuring the far greateſt quantity of nitre that is made in the world, ſo that this earth ſeems to be its moſt natural ore, though there are various other methods of obtaining it*. The uſes of ſalt-petre in making gunpowder,

* Philoſophers generally allow the air to be impregnated with a volatile nitre, thence communicated to pinguious alcaline earths, and other ſubſtances adapted to receive it; and Hoffman affirms, that nitre may at any time be extracted from the air, by expoſing to it an alcaline ſalt, in a place not open to the rain and dews. The winds blowing from the northerly and eaſterly points, contribute moſt to the generation

gunpowder, and in preſerving ſubſtances as common ſalt, are well known; and in medicine it is of ſuch excellent ſervice in fevers, inflammations, and ſeveral other diſorders, that it ſeems worthy of all the regard that is paid to it in the preſent practice.

THERE is another kind of ſalt, called Borax, whoſe compoſition, whether natural or artificial, ſeems, till of late, to have been little underſtood. However, at preſent it is known, that in many parts of Perſia, as well as in the dominions of the Great Mogul, and other eaſtern countries, there oozes from the ſides of hills that abound with metallic ores, eſpecially that of copper, a muddy water of a blueiſh grey colour, ſometimes a little reddiſh, and ſometimes greeniſh, but the two laſt dyes are only accidental. It is of a brackiſh, bitteriſh, and very naufeous taſte, and has ſometimes a bituminous matter ſwimming on its ſurface. This water, where it runs in ſufficient plenty, is directed in its courſe into ſeveral wide and ſhallow pits, where it is left to evaporate; but thoſe who have the care of the pits are frequently putting in large quantities of the mud depoſited by the water in its channel, or about the mouth of the ſpring,

tion of nitre; and it is obſervable, that the earth we have been deſcribing is always found on the ſides of hills facing thoſe quarters. Earths moiſtened with the dung and urine of animals, as thoſe of ſheep-folds, ſtables, pigeon-houſes, and the like, all afford more or leſs nitre; and in France great quantities of this ſalt are annually made, by boiling in water the matter of old walls, the plaiſter of ruined buildings, the earths of places where animals have been fed, &c. which ſalt they refine by boiling it three or four times, and paſſing it through ſeveral lyes: and why might not a manufactory of this kind be ſet up and carried on in England with as much advantage as at Paris, where ſuch a one has been many years eſtabliſhed?

which

which they mix thoroughly by ſtirring it about, and from time to time ſkim off the bituminous ſubſtance, whenever it appears. The whole being, by evaporation and the addition of mud, brought to the conſiſtence of a ſoft pap, they throw over it, in the heat of the day, a large quantity of melted fat, and having ſtirred it well together, they immediately cover it with a light cruſt of dried vegetables, ſmall branches of trees, or the like, and over that lay a thin covering of any common clay. Thus it is left to the action of the ſun; and when it is judged, by making trials about the edges, that the moiſture is wholly evaporated, which is uſually in ſeven or eight days from the covering of the pits, the coat of clay and the vegetables are removed, and there appears a looſe crumbly ſubſtance, which being gently broke to pieces with ſpades and ſifted, the looſe earthy powder runs through the ſieve, and leaves behind it the ſalt concreted from the evaporated liquor. This is what we call Rough or Native Borax, and is in rude irregular maſſes, very foul, earthy and fattiſh, of a greeniſh colour, and a diſagreeable ſmell: but for medicine and other uſes, it is refined by a chymical proceſs, and when perfectly purified, is clear and tranſparent like rock-cryſtal.—Borax is uſed in ſoldering and fuſing of metals, and by the dyers to give a gloſs to ſilks. In Italy the ladies uſe it as a coſmetic; and with us it is of conſiderable repute in medicine, being inciſive and aperient, and therefore effectual againſt diſeaſes proceeding from an inſpiſſation of the humours, and obſtructions thence ariſing. It is alſo of ſervice in promoting the Menſes, and facilitating delivery.

ABOUT ten miles from Baku, a city ſituated by an excellent haven in the Caſpian ſea, is a phænomenon

nomenon of a very extraordinary nature, called the Everlasting Fire. The soil is dry and rocky, and there are built upon it several ancient temples of stone, supposed to have been all dedicated to fire; and among these is a little temple, in which the Gauries, a sect who consider fire as the most perfect resemblance of the Deity, perform their devotions. Near the altar is a large hollow cave, from the end of which issues a blue flame, like that of a lamp burning with spirits, but, to appearance, more pure. This flame, the Indians pretend, has continued ever since the flood, and they fancy it will last to the end of the world. Mr. Hanway observes, that, at a small distance from the temple, is a low cleft of a rock, in which is a hollow gap, two feet from the ground, near six long, and about three broad; from which also issues a blue flame like that already described: in still weather it burns low, but when the wind blows, it sometimes rises eight feet high, and yet it is not perceived that the flame makes any impression on the rock. But what appears still more extraordinary, is, that the earth, for above two miles round this place, has this extraordinary property, that on taking up two or three inches of the surface, and applying a live coal, the part uncovered instantly takes fire, almost before the coal touches it: the flame heats without consuming the soil, nor does it affect the earth that is near it; yet this earth, carried to another place, does not produce this effect. If a cane, or even a paper tube, be set about two inches in the ground, and closed up with earth below, on touching the top of it with a live coal, and blowing upon it, a flame immediately issues, without burning either the cane or the paper, provided the edges be covered with clay; and this method

the

the people here use for light in their houses, they having no other floor but the earth. Three or four of these lighted canes will boil water in a pot; and thus they dress their provisions: yet the flame may be extinguished in the same manner as that of spirits of wine. The ground is here dry and stony, and the more stony it is, the stronger and clearer is the flame. It is said to burn lime to great perfection, and has a sulphureous smell, like Naptha, but this smell is not very offensive.

NEAR the place where is found this remarkable phænomenon, brimstone is dug, and springs of Naptha are found. The principal place for the black or dark grey Naptha, is the small island Wetoy, in the Caspian sea, which is uninhabited, except when they are taking Naptha. The springs boil up highest when the weather is thick and hazy, and the Naptha frequently takes fire on the surface, running in great quantities, in a flame into the sea, to an almost incredible distance from the shore. But in clear weather the springs do not boil up above two or three feet in height. This oily substance, in boiling over, becomes of such a consistence, that by degrees it almost closes up the mouth of the spring, and sometimes it closes it up entirely, forming a hillock as black as pitch; but when a spring is thus stopped up in one place, it breaks out in another; and some that have not been long open, form a mouth eight or ten feet in diameter. This substance has a disagreeable smell, and is principally used by the poor in lamps, and to boil their provisions; but it gives the food a disagreeable taste. It burns best when mixed with a small quantity of ashes; and as there is great plenty of it, every family is well supplied. The people keep it in earthen vessels under ground, at a small distance from their

their houſes, on account of its being very liable to take fire. In the peninſula of Apcheron is a white Naptha of a much thinner conſiſtence, which the people drink as a cordial and medicine: it is alſo uſed externally, and is ſaid to be carried into India, where, being properly prepared, it is made into a moſt beautiful and laſting varniſh.

THE Turquoiſe or Turcois ſtone is found no where finer, or in greater plenty, than in Perſia. This foſſil, which, from its beautiful colour, has been always accounted a gem, is in reality no other than a copper-ore, and that far from one of the hardeſt kind. It is found in the fiſſures of ſtones that contain copper, either in ſingle knobs, from the ſize of a pea to that of a walnut, or in cluſters of theſe ranged ſide by ſide, and forming large flat maſſes. Its colour is a fine pale blue, with ſome ſmall admixture of green; and it is naturally of a ſmooth and bright ſurface, ſo that it is often worn without any additional poliſh. But there is another ſort of turquoiſe, which is a quite different ſubſtance frnm the former, it being the teeth or bones of animals, that have lain in the earth in the neighbourhood of copper-ore till they have been tinged by it with deep blue ſpots and veins, which, when the bone is put into a gentle fire, diffuſe themſelves through the whole ſubſtance, and make it of a beautiful pale blue *.

* There are ſeveral mines of theſe turquoiſes in France, and moſt of what are now worn are of this kind. An accurate obſerver may often trace the grain of ivory even in the fineſt of them; for ſome parts of the ſtreaks of the bone having been harder than the reſt, and received much leſs of the colour, are eaſily diſtinguiſhed by their whitiſh caſt. The heating of them, to diffuſe the blue through the whole ſubſtance, is a matter of much nicety, for ſome of theſe turquoiſes require a greater degree of heat to bring them to their colour than others: and if the heat be too intenſe, it will take the colour quite away.

The

The finer and more perfect of either of these kinds of the turquoise are said by our jewellers to be of the Old Rock, and those that are less perfect and valuable, are called turquoises of the New Rock; which distinction we suppose proceeds from what Tavernier relates, of two mines of those names in Persia, the stones found in the latter being much less esteemed than those of the former.—The great defect of all turquoises is, that in time they lose their blue colour, and become green, and then cease to be of any value; besides, they are easily counterfeited, and that so perfectly, that it is scarce possible to discover the deceit *.

THE Lapis Lazuli found in Persia and other Asiatic countries, is the most esteemed, though it is likewise to be met with in Africa and America, and also in Europe. This is for the most part of a beautiful deep sky-blue, but always variegated with a white matter, and adorned with veins of a gold colour. The yellow veins are very bright and glossy, and the white have been usually taken for a spar, but are really a debased crystal. It is capable of a fine polish, and is most beautiful when the golden marcasite is dispersed over it in distinct spots, and not in the form of veins, and when the white matter is very pure and pellucid; in which state some naturalists suppose it to be the Sapphire of the ancients. The Lapis Lazuli of Asia likewise affords the painters that fine blue called Ultramarine †, which never changes,

* Dr. Hill tells us, that he wears in a ring a turquoise of his own making, from a hard bone tinged with a tincture of copper in an alkali, which is equal to many of the finest native turquoises, and is allowed by the jewellers to be a turquoise of the Old Rock.

† This blue is one of the richest and most valuable colours used in painting. It is prepared by calcining the stone in an iron

changes, whereas the German is apt to turn to a greeniſh colour. The Aſiatic ſtone will alſo bear the fire, which thoſe will not do that are found in Europe.

VEGETABLES.

OF the vegetable productions of Perſia, none deſerves our attention more than the Date-Tree, a ſpecies of the palm, which is not peculiar to Perſia, but grows in Egypt, and other warm countries. This tree runs up very high in one ſtem, which is ſeldom more than a foot in diameter, though ſometimes they are much thicker. The wood is porous, and that which is moſt ſolid has a coarſe grain; but its greateſt ſingularity is, that the heart of the tree is ſofteſt, the outer parts being moſt hard and durable. From the boughs, as the tree grows up, iſſue a great number of ſmall fibres, which croſs one another like net-work, and of theſe the people make cords, and bruſhes for their cloaths. Of the leaves they make baſkets, beſoms, &c. and of the branches all ſorts of cage-work, and boxes to pack up goods in.

iron pot or crucible, then grinding it very fine on a piece of porphyry, and afterwards mixing it up with a paſte made of wax, pitch, maſtich, oil and turpentine. This paſte muſt be waſhed well in clear water, to ſeparate the colouring part from the reſt, which precipitates to the bottom in form of a ſubtil, beautiful blue powder. The water is then poured off, and the powder at bottom dried in the ſun, which is the true ultramarine. Thoſe who prepare this colour have uſually four kinds, obtained by ſo many different lotions, the firſt of which is beſt, and ſometimes ſo fine, as to be ſold for eleven pounds ſterling per ounce; whereas the laſt ſort may be had for about twelve or fifteen ſhillings.—It is ſaid the method of making this colour was firſt diſcovered in England, and that a member of the Eaſt-India Company, having a quarrel with his aſſociates, to be revenged of them, made the ſecret public.

The

The palm-tree, as Dr. Shaw informs us, is chiefly propagated from young ſhoots taken from the roots of full-grown trees, which, if well tranſplanted and taken care of, will yield fruit in ſix or ſeven years; whereas thoſe which are raiſed immediately from the ſtone, will not bear till about their ſixteenth year. About thirty years after tranſplantation, the tree is in its greateſt vigour, and continues ſo for ſeventy years longer, bearing cluſters of dates weighing fifteen or twenty pounds; but from that period it gradually decays, and uſually falls towards the end of its ſecond century. The date or fruit of this tree is in a ſort of ſheath, which opens as it grows; and it is remarkable, that the male tree bears large cluſters, full of a whitiſh Farina, with which the young fruit of the female muſt be impregnated, or it never comes to perfection. This is done in Perſia, according to M. Thevenot, by taking two or three bloſſoms of the male cluſter, and inſerting them in the ſheath of the female; and Dr. Shaw tells us, that in the kingdoms of Algiers and Tunis, they uſe the ſame method: but in Egypt they take a whole cluſter of the male tree, and ſprinkle the Farina of it over ſeveral cluſters of the other.—As to the fruit or dates themſelves, they are uſually round, longiſh, and yellow, but frequently reddiſh on one ſide, of a pleaſant ſweet mucilaginous taſte, having a hard ſtone incloſed in a thin white pellicle. They are of various ſizes, and are brought to us from different countries, but thoſe from Perſia exceed all others in largeneſs, taſte, and colour.—Dates are frequently uſed in medicine, being good againſt ſpitting of blood, diarrhœas, and all diſorders of the reins and bladder. They are of ſervice in ſtopping immoderate diſcharges of the Menſes, and procuring a retention of the Fœtus;

and they are proper in coughs, hoarseness, and pleurisies. A decoction of them is often used to promote the eruption of the small-pox. But after all, they are difficult of digestion, cause pains in the head, and occasion obstructions in the Viscera; for which reason those who feed much upon dates become scorbutic, and lose their teeth betimes.

THE Pistachio Nut is the product of a kind of turpentine-tree, growing in Persia and other eastern countries. This fruit, with no other covering but its shell, resembles a small nut, but when wrapt in all its coats, it is of the size of a green almond. The kernel is red without, and green within, and its taste very agreeable. These nuts are used in ragouts, comfited, made into conserves, &c. and being heating, moistening, attenuant, and aperitive, they are of some service in medicine. They are principally used in stuffings of the lungs and obstructions of the liver; they strengthen the stomach, repress a nausea and vomiting, excite an appetite, and afford good nutriment.

PERSIA has likewise most of the fruits of Europe: they have nectarines and peaches that weigh sixteen or eighteen ounces each; and particularly an apricot, red within, called the Egg of the Sun. These are dried and exported in great quantities. They boil them in water, which is thickened by the juice of the fruit, and converted into a perfect sirrup, without sugar.

ONE of the most singular productions of this country is Assa Fœtida, of which we have had, for a long time, a multitude of various and false accounts, till Kœmpfar gave a perfect and particular description of the plant from which it is produced. The root is perennial, and very large, covered with a thick black rhind, and within perfectly white, and full of a white, milky, and

stinking

ſtinking juice, which, when collected and dried, is what the Europeans call Aſſa Fœtida. The ſtalk is as thick as a man's arm, and grows to eight or nine feet high, gradually tapering towards the top; whence it is divided into a ſmall number of branches. The leaves, which are very large, and like thoſe of the piony, ſtand alternately on the ſtalks. The flowers are ſmall; and the ſeeds, which are flattiſh, and of an oval figure, have ſomewhat of the aſſa fœtida ſmell. It grows plentifully only in two places in Perſia: theſe are the mountains about Heraat and the province of Laar, where the leaves are of a horrible offenſive ſmell, ſo that no animal will touch them. It is very ſingular in this plant, that it ſeldom flowers, ſometimes not till its twentieth, thirtieth, or even fortieth year; during all which time the root is encreaſing in ſize, and conſequently ſometimes grows to an enormous bulk, roots of it having been ſeen of the thickneſs of a man's thigh, and of a yard and a half in length; but thoſe of the thickneſs of one's arm are frequent. When it ſends forth a ſtalk, and has ripened its ſeed, it periſhes. All the aſſa fœtida we have is obtained from the root, and they never make inciſions from it till it is four or five years ſtanding; it being always found, that the older and larger the root, the more plentifully the juice flows. The juice, as it comes from the root, is white, perfectly reſembling cream; but on being expoſed to the air, it hardens, becomes viſcous, and coloured. The moſt ſtrongly ſcented aſſa fœtida is always eſteemed the beſt; and Kœmpfar obſerves, that it is ſo much ſtronger when freſh than when kept and imported into Europe, that a dram of it has more ſcent than an hundred weight of that kept by our druggiſts.

ASSA-Fœtida is given, not only againſt hyſterical complaints, flatulent cholics, and obſtructions of the breath, but in moſt nervous diſorders. It is moſt commodiouſly taken in the form of pills, from a few grains, to a ſcruple or half a dram.

FROM theſe productions of the land let us proceed to conſider a marine vegetable, namely Coral, which grows plentifully in the Perſian gulf. The ancients took coral to be a ſtone, but moſt of the moderns rank it among the number of ſea-plants. M. Tournefort, that able botaniſt, maintains, that it multiplies by ſeed, though neither its flower nor ſeed be known; but the count De Marſigli has diſcovered ſome parts therein, which ſeem to ſerve the purpoſe of ſeeds and flowers. Allowing coral then to be a plant, it has a root, faſtened to the rock on which it grows. Theſe roots are covered with a bark full of ſtarry pores, which traverſe them from top to bottom. A little way from the root, the plant is divided into ſmall branches that have white ſtreaks, which ſeem to repreſent a kind of fibres. The extremities of the branches are ſoftiſh, and rounded into little knobs, commonly divided into ſix cells, filled with a fattiſh milky humour, ſharp and aſtringent. And that nothing may be wanting to conſtitute a real plant, theſe round tumours are a kind of pods, containing the ſeed of the coral; for wherever the incloſed juice happens to be ſhed, and meets with a hard body to fix on, it produces a coral plant; whence it is, that in the cabinets of the curious we find ſome of it on dead men's ſkulls, and other kinds of ſolid bodies, which chance has thrown in the way of the ſcattered ſeed. Coral uſually grows in the caverns, or on the prominent parts of rocks at the bottom of the ſea, but it vegetates

the

the contrary way to all other plants, the root adhering to the top of the cavern, and the branches ſhooting downwards. Hence an objection naturally ariſes againſt its being propagated by ſeed; for as it grows with its head downwards, the ſeed, if it bears any, muſt, when come to maturity, fall to the bottom of the cavern. To which it may be anſwered, that the ſeed of coral is probably ſo very fine, as to be lighter than the water, in which it may likewiſe be buoyed up by the milky juice that ſurrounds it, which is of an unctuous nature. The conſequence of this is, that thoſe ſeeds which riſe to the ſurface of the water, and there ſwim about at random, periſh and come to nothing; whereas thoſe which meet with crevices and vaults of rocks in their way, to faſten themſelves to, unfold their tunicles, and flouriſh into a little tree.—Upon a nice examination of the ſeveral parts of coral, the count De Marſigli concludes, that all its organiſm, with regard to vegetation, conſiſts in its rind*; that the

* As the terreſtrial plants were made to live on thoſe juices which pervade the pores of the earth, or fluctuate in the air, they are provided with roots, fibres, and capillary veſſels, to attract the water out of the ground, and with branches and leaves to imbibe the moiſture of the atmoſphere; whereas the marine plants, which find in the waters all that is neceſſary for their vegetation, have no occaſion for large roots to ſupply them with the juices of the earth, they being nouriſhed without their aſſiſtance. In a word, whether we allow coral and ſuch-like ſubſtances the name of plants or no, we muſt acknowledge them to be regular productions, which keep up the continuation of their ſpecies, and in which chance has no more ſhare than it has in the propagation of flowers and fruits upon the land: and though the body of water that covers them conceals from us the manner of their operation, the different ſteps of their growth and progreſs, and the particular uſes for which they are appointed; yet reaſon can ſo far penetrate into the myſteries of nature, as to diſcern in thoſe

the tubes of this rind filtrate a juice which fills the little cells, and runs along the canals to the extremities of the branches; and that this juice being petrified, both in the cells encompaſſing the coralline ſubſtance, and in thoſe of the ends of the branches whoſe ſubſtance is not yet formed, makes the plant grow and increaſe in its dimenſions.

THERE are three kinds of coral, White, Red, and Black, the firſt of which is rareſt and moſt eſteemed, but the red is commonly uſed in medicine. It is drying, cooling, and aſtringent, ſweetens the blood, frees the ſtomach from acid juices, ſtrengthens the liver, and ſtops fluxes.

THE time of the coral fiſhery is from April to July; and the principal places for it, beſides the Perſian gulf, are the Red Sea, and ſome parts of the Mediterranean, both on the coaſts of Africa and Europe. The method of fiſhing is nearly the ſame in all places, and is as follows. Seven or eight men go in a boat, provided with a machine to tear up the coral from the rocks, which is compoſed of two pieces of wood croſſing each other at right angles, with a leaden weight at the center to ſink them, and a ſtrong net at each end to entangle the coral, beſides a quantity of hemp looſely twiſted. This is let down into the ſea by a rope, and being moved along the ſides of the rocks, the coral growing on the prominent parts is embarraſſed amongſt the nets and hemp, and is

things that are in a great meaſure hidden from us, as well as in thoſe that are fully diſcovered to us, freſh proofs of an infinite wiſdom diſplaying itſelf in the order and œconomy of the whole univerſe, and making a liberal proviſion for the inhabitants of the water as well as thoſe of the land; and, in ſhort, of a Providence that has ſo conſtituted and diſpoſed every part of nature, at to make it moſt effectually conduce to the benefit of mankind.

drawn

drawn up by the fiſhermen, who, by the ſudden breaking of the rope, are ſometimes in danger of drowning. Thus much for the vegetable productions of Perſia; our next ſtep is to take a view of ſome of its animals.

ANIMALS.

THE horſes of Perſia are the fineſt in all the Eaſt, (except thoſe of Arabia) being taller than the Engliſh ſaddle-horſes, exactly proportioned, very light and ſprightly, and excellent travellers. To ſay nothing of their camels and mules, which are of wonderful ſervice, they have a breed of Arabian aſſes, the beſt in the world. Theſe have ſmooth ſhining hair, carry their heads high, are light and nimble, and move gracefully along. Theſe do not carry burdens, like the common dull aſſes of the country, but are kept for riding, and are ſo much valued, that ſome of them are ſold for above thirty pounds ſterling, and none tolerably good are to be had under twenty. The Perſian oxen have a ſharp-pointed bunch on the back, near the neck, and the country-people make uſe of them to ride upon, as well as to carry burdens.

IN general it may be ſaid, that wild beaſts are not very common in Perſia, becauſe there are few foreſts; but in the province of Tabriſtan, the ancient Hyrcania, which is full of woods, there are abundance of wild boars, tigers, leopards, bears, jackals, and other animals.

THE Antelope, according to M. Thevenot, is a creature very common in Perſia. It is ſhaped like a deer, has fine large black eyes, a long ſlender neck, and his horns grow almoſt ſtrait up from his head, tapering gradually, with rings at equal diſtances from each other. This beaſt is

remarkable for its swiftness, on which account it is said to be seldom taken alive; but our French traveller, if he means the same animal, does not seem to represent the taking of it as such a difficult matter. He tells us, they have a method of hunting the antelope with a creature called an Ounce, which is brought from Arabia, and is trained up for that purpose. The huntsman usually carries the ounce behind him on horseback, having a chain about his neck, and keeping a cloth before his eyes till they discover an antelope; upon which he pulls off the cloth and chain, and lets the ounce go in pursuit of his prey. The ounce having got sight of the antelope, creeps softly towards him on his belly, hiding himself, if he can, behind the hedges, till being come within a little distance, he takes two or three great leaps, and seizes the antelope. If he happens to miss his aim, he pursues no farther. The Persians also train up falcons to hunt the antelope, having the stuffed skin or figure of that animal, on whose nose they constantly feed the falcons. Having spied an antelope, they let fly two of these falcons, one of which fastens just upon the nose of the creature, who endeavours to shake off his enemy, whilst the bird flutters to keep his hold, which hinders the antelope from running or seeing well before him. However, if he happen to disengage himself from his first assailant, the falcon that is aloft stoops and supplies the place of the other, which immediately points up and keeps above, ready to succeed his companion, if he should be shaken off by the antelope. Thus the falcons harrass the poor animal, and hinder his running, till the dogs come up, who soon make an end of the diversion.

THOSE

THOSE parts of Perſia which lie near Arabia are very much infeſted with Locuſts, and therefore it ſeems not improper to give ſome account of that inſect, eſpecially as it ſerves for food in theſe eaſtern parts of the world. The uſual ſize of this creature is about two inches and a half in length. It has a large brown head, with two prominent lenticular eyes, three pair of legs, taking their origin from the Thorax, the hindermoſt pair being thick at the thighs, and prickly. Its wings are membranaceous, of an aſh-colour inclining to a red or purple, with many brown ſpots on them, and its back is guarded as it were with armour.—Sir Hans Sloane, in his Natural Hiſtory of Jamaica, ſays, that colonel Needham, who had lived ſome time in Teneriffe, informed him, that the locuſts deſtroyed all the product of that iſland. They came from the coaſt of Barbary, and having flown as far as they were able, one of them alighted in the ſea, and another upon that, ſo that, one after another, they made a heap as big as the greateſt ſhip above water, and were thought to be as many under. Thoſe above water, after the ſun had refreſhed them next day, took flight again, and came in clouds to the iſland, where the ſoldiers were got together, to the number of ſeven or eight thouſand, who laying aſide their arms, ſome took bags, ſome ſpades, dug trenches, and covered the inſects with mould. Their labour, however, had not the intended effect, for many of the locuſts eſcaped, and being revived by the ſun, did great damage to the vineyards.

THE locuſts that appeared in England in 1748, nearly reſembled a graſhopper in form, but were more robuſt, of a different colour, with four large wings, like thoſe of the horſe-ſtinger. They

were brown and tranſparent, divided into panes by a ſmall black line, and their texture was very elaſtic. The wings of one of them, whoſe body was two inches and a half in length, meaſured five inches when extended; and ſome were taken of a larger ſize. The body of the inſect was ſcaly, its head large, its face ſtreaked with brown and white, and its eyes of a hazle colour. Its jaws opened and ſhut horizontally, and were of a black, hard, horny ſubſtance, not keen but blunt, and meeting with great exactneſs. The tongue was like a ſmall French bean, and over the jaws it had a covering, which it could contract at pleaſure, or put forth from its mouth to a conſiderable diſtance. This thin ſubſtance is probably of uſe to the creature in drawing towards it blades of graſs, or whatever elſe it eats that is of a yielding nature.

UNDER the article of Vegetables we have given an account of the coral-fiſhery in the Perſian gulf, and now we are ſpeaking of Animals, it is proper to take notice of that of pearls, for which that part of the ſea has always been celebrated. Pearl is a hard, white, ſhining body, uſually roundiſh, found in a ſhell-fiſh reſembling an oyſter, and ranked in the number of gems or precious ſtones. The formation of pearls has puzzled both ancient and modern naturaliſts, and has given occaſion to ſeveral extravagant hypotheſes. Pliny, Solinus, and others of the ancients, ſuppoſed them formed of the dew, which, ſay they, the fiſh riſes every morning to the ſurface of the water, and opens its ſhell to imbibe; but this is manifeſtly falſe, the pearl-oyſters growing faſt to the rocks, and never riſing to the ſurface.

IN the memoirs of the French academy, M. Reaumur has a very curious piece on the formation both

both of shells and pearls, where he observes, that pearls are apparently the effects of a disease in the fish, they deriving their origin from a juice extravasated out of some broken vessels, and detained and fixed among the membranes. To evince the possibility of this, he shews that the shells of sea-fishes, as well as those of snails, &c. are wholly formed of a glutinous stony matter, ouzing out of the body of the animal; and therefore it is no wonder that such animals as have vessels, containing a sufficient quantity of stony matter to build and extend a shell, should have enough to form stones, in case the juice destined for the growth of the shell should happen to overflow, and burst forth in any cavity of the body, or among the membranes. To confirm this system, he observes, that the inner surface of the common pearl muscle is of a mother-of-pearl colour in one part, and reddish in another; and the pearls found in this fish are likewise of two colours, exactly corresponding with those of the shell; which shews, that in the same place wherein the transpiration of a certain juice had formed a coat or layer of shell of a certain colour, the vessels which conveyed that juice being broke, a little mass or collection of it is formed, and hardening, becomes a pearl of the same colour with that part of the shell to which it corresponds.

THE perfection of pearls, whether round, in form of pears, or irregular, consists chiefly in the lustre or clearness of the colour *, which is called

* The size, as well as the water, makes a great difference in the value of pearls. That mentioned by Tavernier, in the hands of an emperor of Persia, in 1633, was bought of an Arab for 32,000 tomans, which, at 3 l. 9 s. the toman, amounts to 110,400 l. sterling.

the Water. The white ones are moſt eſteemed in Europe, but ſome of the Indians and Arabs prefer thoſe which border on the yellow. Some are of a lead colour, others blackiſh, but all are liable to change in wearing, eſpecially the white ones, which turn yellow in forty or fifty years time, and are of little value. Pearls have this advantage over precious ſtones dug out of the rocks, that the latter owe their luſtre to the induſtry of men, but the former are found perfectly poliſhed in the abyſſes of the ſea, and nature has put the laſt hand to them ere they are ſeparated from their mother.

IT is to be obſerved, that what we call Mother of Pearl is not the ſhell of the pearl-oyſter, but of another fiſh of the oyſter kind, called Auris Marina, or the Naker. The inſide of this ſhell is very ſmooth and poliſhed, and of the whiteneſs and water of pearl itſelf, together with a delightful mixture of red, blue, and green; and its outſide has the ſame luſtre after the firſt leaves have been cleared off by Aqua Fortis and the lapidary's drill.—Wens of pearl are certain excreſcences in form of half-pearls, ſometimes found in the bottoms of the pearl-ſhells, which the lapidaries have the ſkill to ſaw off and join together, and uſe them in ſeveral works of jewelry *.

ONE

* There is a curious method of making counterfeit pearls, which is owing to the Sieur Janin, and ſeems worthy to be deſcribed. This artiſt having obſerved, that the ſcales of the little fiſh called the Bleak had not only all the luſtre of the real pearl, but that after beating them to powder in water, they returned to their former brilliancy upon drying, he thought of ſetting a little maſs thereof in the cavity of a bead, made of a kind of opal or glaſs, which had likewiſe a pearly colour. For this purpoſe he made uſe of a glaſs tube about ſix inches long, ſharp at one end, and ſomewhat crooked, through which he blowed a drop of the matter into the bead, and

ONE of the moſt noted pearl-fiſheries, as we have already hinted, is in the Perſian gulf, and particularly near the iſland of Baharem, but there are ſeveral others, both in the Indian ſeas, and in thoſe of America. There are two ſeaſons of fiſhing for pearls, the firſt in March and April, the ſecond in Auguſt and September, and during theſe ſeaſons there appear about the above-mentioned iſlands ſome hundreds of fiſhermen's barks, each provided with one or two divers, who perform feats that are almoſt incredible. When the barks have caſt anchor, which they commonly do in about five fathom water, the diver binds a heavy ſtone under his body, which is to ſerve him as ballaſt, to prevent his being driven away with the motion of the ſea, and enable him to walk more ſteadily. Beſides this, he ties another ſtone to one foot, which makes him ſink to the bottom in a moment; and he carries down with him a large net, in manner of a ſack, which is tied to his neck by a cord, whereof one end is faſtened to the ſide of the veſſel. This ſack is intended for the reception of the oyſters gathered from the rocks, and the rope is to pull up the diver when his bag is full, or he wants to take breath. To prevent his hands being wounded by the rocks or ſhells, he wears leathern mittens; and thus equipped, he precipitates himſelf to the bottom, where he makes the beſt uſe of his time in tearing

and to ſpread it equally throughout the inner circumference, he ſhook it gently a long time in a baſket lined with paper. The pulverized ſcales, faſtened by this motion to the inſide of the bead, reſume their luſtre as they dry, and nothing remains but to ſtop up the aperture, which is done by melted wax, conveyed into it with a tube like that uſed in introducing the diſſolved ſcales. The ſuperfluous wax being cleared away, the beads are perforated and ſtrung, and ſo commence necklaces.

off

off the oysters he meets withal, and cramming them into his budget. When he finds himself straitened, he gives the rope a pull, and holding fast by both hands, the people in the bark draw him up, and unload him of his fish, which are sometimes five hundred oysters, sometimes not above fifty. The best divers, it is said, will keep under water for half an hour, and few of them less than a quarter; and this violent exercise they continue many hours without intermission *. The water

* We shall not pretend to vouch for the truth of all that is related concerning these divers, especially that particular of their continuing so long under water. Some divers help themselves by carrying down spunges dipped in oil in their mouths; but, considering the small quantity of air that can be contained in the pores of a spunge, and how much that little will be contracted by the pressure of the incumbent air, such a supply cannot long subsist the diver; it being found by experiment, that a gallon of air included in a bladder, and by a pipe reciprocally inspired and expired by the lungs, becomes unfit for respiration in little more than a minute; for though its elasticity be not much altered in passing the lungs, yet it loses its vivifying spirit. Hence some have contrived double flexible pipes, to circulate air down into a cavity, inclosing the diver as with armour, so that his breast might have room to dilate upon inspiration; the fresh air being forced down one of the pipes by bellows, and returning by the other, not unlike a vein and artery. But, when the depth exceeds three fathoms, this method is found impracticable, the water obstructing the circulation of the blood in the limbs, and pressing so strongly on the junctures where the armour is made tight with leather, that if there be the least defect in any of them, it instantly rushes in and fills the whole machine, to the great danger of the diver's life.

The Diving-Bell is an engine contrived to remedy these inconveniencies, wherein the diver is safely conveyed to any reasonable depth of water, and many stay there more or less time, according as the bell is greater or less. The latest improvements in the diving-bell have been made by our ingenious countryman Dr. Halley, and Mr. Triewald of Stockholm. The doctor's bell was three feet wide at top, five feet at bottom, and eight feet high, containing about fixty-three

water is usually very clear, so that the diver can easily see what he is about; but, to prevent his being seen by ravenous fishes, he sometimes makes the water muddy; notwithstanding which, the divers now and then fall a prey to these monsters of

three cubic feet, or near eight hogsheads, in its concavity. This was coated externally with lead, so heavy, that it would sink empty, and a weight distributed about its bottom, to make it descend perpendicularly, and no otherwise. In the top was fixed a strong clear glass, to let in the light from above, and a cock to let out the hot air. Below was a circular seat for the divers to sit on, and from the bottom was hung by three ropes a stage for them to stand on to do their business. This machine was suspended from the mast of a ship by a sprit, which was sufficiently secured by stays, and directed by braces to carry it over-board clear of the ship, and bring it in again. To supply the bell with air when under water, there were two barrels, holding each thirty-six gallons, and cased with lead to make them sink empty. These had a hole in the bottom to let in the water according as the air was condensed in their descent, and to let it out again when they were drawn up from below. In the top of the barrels was another hole, to which was fixed a leathern pipe or hose, long enough to hang below the hole at the bottom, being kept down by a weight appended; so that the air driven by the water to the upper part of the barrels, could not escape, unless the lower end of these pipes were first lifted up. These air-barrels were fitted with tackle, so as to rise and fall alternately, like two buckets; and were directed in their descent by lines fastened to the under edge of the bell, so that they came readily to the hand of a man standing on the stage to receive them, who lifting up the ends of the pipes above the surface of the water in the barrels, all the air included in the upper part thereof was driven into the bell, the water taking its place. One barrel being thus emptied of air, was drawn up upon a signal given, and the other let down to be ready for use; by which method fresh air was furnished so plentifully, that the doctor tells us, he himself was one of five who were together at the bottom in nine or ten fathoms water, for above an hour and a half, without any ill consequence, and might have continued there as long as they pleased, for any thing that appeared to the contrary. All the precaution the doctor observed,

of the deep, and of all the perils attending the pearl-fiſhery, this is one of the greateſt and moſt uſual.

THE barks unload their oyſters on the ſhore, and lay them in a great number of little pits, dug four

ſerved, was to be let down gradually, about two fathoms at a time, and then to ſtop and drive out the water that had entered, by letting in three or four barrels of freſh air; and being arrived at the intended depth, he let out as much of the hot air as the barrels would replace with cold, by turning the cock at the top of the bell, through whoſe aperture, though very ſmall, the air would ruſh out ſo ſtrongly, as to make the ſea boil at the ſurface. The only inconvenience people complain of in deſcending, is a ſmall pain in the ears, as if the end of a quill were forcibly thruſt into them, which alternately abates and returns till they are got to the bottom, where the air continues of an equal denſity. By this means the doctor found he could lay the bottom of the ſea, juſt within the compaſs of the bell, ſo far dry, as not to be over ſhoes thereon; and the glaſs admitted ſo much light when the ſun ſhone, and the ſea was clear and even, that he could ſee perfectly well to write and read, and by the return of the air-barrels, could ſend up orders, written with an iron pen on ſmall pieces of lead, directing how he would be moved from place to place. At other times, when the water was rough and troubled, it would be as dark as night below; but then a candle might be kept burning in the bell, which was found by experiment to conſume much the ſame quantity of confined air as a man does, viz. about a gallon in a minute.—This bell was ſo far improved by the doctor, that a diver might be detached from it to the diſtance of eighty or a hundred yards, by means of a cap or head-piece, ſomewhat like an inverted hand-baſket, with a glaſs in the fore part, that he might ſee his way. This cap was of lead, made to ſit quite cloſe to the ſhoulders, and in the top of it was fixed a flexible pipe, communicating with the bell, by which he had air when he wanted, and which being coiled round his arm, ſerved as a clue to direct him back again to the bell.

After this, one would think little or nothing was wanting to the perfection of diving; but M. Triewald obſerving, that Dr. Halley's ingenious invention could not be made uſe of without conſiderable charge, it requiring a large veſſel, and

four or five feet ſquare, raiſing heaps of ſand over them the height of a man. In this condition they are left till the rain, wind and ſun, have obliged them to open, which ſoon kills them, the fleſh rots and dries, and the pearls, thus diſengaged, tumble

and a number of hands to work and manage the machine, bethought himſelf of a leſſer bell ſomewhat different in form, which might eaſily be managed by two hands, and yet anſwer all the purpoſes of the doctor's. It is true, a man in a large bell has more air than in a leſs, and conſequently ſhould be able to ſubſiſt longer on a large than on a ſmall quantity; but in M. Triewald's bell, the ſtage is ſuſpended at ſuch a diſtance frc the bottom, that when the diver ſtands upright, his head is but juſt above the water, where the air is cooler and fitter for reſpiration than towards the top of the bell: and yet when there is occaſion for the diver to be wholly in the bell, and his head of courſe in the upper part, it is ſo contrived, that when he has breathed the hot air as long as he well can, he may then draw the cooler and freſher air from the lower part, by means of a ſpiral copper tube placed cloſe to the inſide of the bell, to the upper end of which tube is fixed a flexible one of leather, and to the end of that an ivory mouth-piece, which the diver holds in his mouth, and reſpires the freſh air from below; and this he may do in any poſture, as ſtanding, ſitting, bowing his body, &c. This contrivance is the better, as it occaſions a circulation ſo neceſſary to the very being of air, and its preſervation for the uſe of animals.

It muſt be acknowledged, that the diving-bell, with theſe late improvements, is a very curious machine; and yet it ſeems to have been outdone in ſome reſpects by an invention of the famous Cornelius Drebell, (whom we have heretofore mentioned) if all be true that we are told concerning it. He contrived not only a veſſel to be rowed under water, but alſo a liquor that would ſupply the want of freſh air. The veſſel was made for king James I. and carried twelve rowers, beſides the paſſengers. It was tried in the river Thames, and one of the perſons who was in the veſſel when the experiment was made, told it to another, who gave an account of it to the ingenious Mr. Boyle. As to the liquor, Mr. Boyle aſſures us, he diſcovered, by a phyſician who married Drebell's daughter, that it was uſed as occaſion required, when the air in the ſubmarine boat was clogged by the breath of

the

tumble into the pit upon taking out the oysters. The pits being cleared of the grosser filth, the sand is several times sifted, to separate the pearls; but notwithstanding all their care, they lose a great many. When the pearls are dried and sifted, they are passed through a sieve according to their sizes; and the smallest are sold under the name of the Seed of Pearls, and the rest by auction to the highest bidder.

WE hope the reader will not think he has been too long detained upon a subject that makes so curious a part of natural history; but we are now going to shift the scene, and present to his view some of the works of art, in a description of several of the most magnificent antiquities in the Persian empire.

ANTIQUITIES.

IT might be thought a great omission to pass over the ruins of the palace of Persepolis, destroyed by Alexander the Great, by the persuasion of Thais the Athenian courtesan, since of this structure, which was the residence of the ancient kings of Persia, there are still some remains. It was once scarce inferior to any palace in the world in splendor and magnificence; and there are now to be seen broken walls, adorned with sculpture; stair-cases of vast extent, and pillars of a very dif-

the company, and rendered unfit for respiration; at which time, by unstopping a vessel full of this liquor, he could presently restore to the troubled air such a quantity of vital parts, as made it useful again for a considerable time. The secret of this liquor Drebell would never disclose to more than one person, who communicated the preparation to Mr. Boyle; from whose Exp. Phys. Mech. of the Spring of the Air, Dr. Derham has related this story, but much questions whether the virtues of the liquor were so effectual as reported.

ferent

ferent form from any of the orders of architecture, that declare the height of the fallen roofs. These ruins are about thirty miles to the north of Schiras, and are seated in a plain, partly encompassed by a range of mountains. The front extended 600 paces from north to south, and 390 from east to west. The stones of the wall are black, and harder than marble, some finely polished, and many of them of such a surprizing size, that it is difficult to conceive how the ancient Persians were able to raise and move such prodigious masses. Several grand portals are still standing, adorned with columns and basso-relievos; and there are still to be seen a great number of pedestals from which the columns have fallen. In short, these ruins have an air of grandeur and magnificence, that fill the mind of the curious beholder with astonishment*.

NEAR the neighbouring mountain, are two tombs of the ancient kings of Persia hewn out of the rock, and adorned with columns, relievo, and statues placed in niches. And at the distance of two leagues from these ruins, are four tombs of persons of eminence among the ancient Persians, that much resemble those just mentioned.

BUILDINGS.

WITH respect to the modern buildings of Persia, it will be sufficient to observe, that the dreadful wars which have for a long time past laid waste that unhappy country, have levelled many of their cities and palaces with the ground: hence the whole country exhibits a scene of ruin and desolation. We shall therefore only endeavour to give the reader an idea of the caravanseras or inns of Persia, by describing the royal one at Ca-

* For a more particular description of these ruins, see the World Displayed, vol. XV.

shan,

ſhan, which is eſteemed the fineſt in the Perſian empire. It is a ſquare building, every ſide of the court or area within being two hundred geometrical paces. It has two ſtories, with a ſort of antichamber below, that runs the whole length of two of the fronts, railed about the height of a man above the court, and four inches lower than the level of the chamber. The ſecond ſtory is contrived like that below, with a baluſtrade four feet high, that lets in the light, and runs round the ſtructure. The entrance is under a high and magnificent portal, adorned with moſaic work, as is the reſt of the building; and in the middle of the court is a fine fountain. The hinder part of this caravanſera conſiſts of large ſtables, rooms for ſervants and luggage, ſtore-houſes, and lodgings for the poor, and for the country-people who bring their goods to market; and behind all are large gardens.—The caravanſeras built on the roads are ſomewhat different from thoſe in the cities: theſe are often erected in dry, barren, deſert places, and ſome of them are furniſhed with water from a great diſtance, and at a vaſt expence, there being no caravanſera without its well or ciſtern. As they are deſigned for the reception of companies of merchants travelling together, with their camels, mules, merchandiſe, &c. they are always large buildings, without any diſtinct rooms or partitions. There are ſeveral hearths and chimneys at proper diſtances from each other, where they dreſs their victuals; and after ſupper their bed is quickly made, it conſiſting only of a mat or carpet ſpread open, a ſaddle ſupplying the place of a pillow, and their clothes ſerving them for a covering. They are deſigned for travellers, of whatever quality, country, or religion; and many of them are provided with ſtraw, barley, bread, and rice, at the expence of the founder.

END OF VOL. III.